SEQUENCE LISTING

<110> MCCARTHY, Sean A
     FRASER, Christopher C
     SHARP, John D
     BARNES, Thomas S
     KIRST, Susan J
     MACKAY, Charles R
     MYERS, Paul S
     LEIBY, Kevin R
     WRIGHTON, Nicholas
     GOODEARL, Andrew
     HOLTZMAN, Douglas A

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      DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES

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Ala Ile Val Ala Gly Asn Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg
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Glu Trp Glu Leu Ser Val Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu
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Ser Tyr Arg Tyr Ala Leu Gln Asp Met Asp Lys Phe Ser Leu Lys Asp
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Val Cys Lys Leu His Gly His Gly His Phe Lys Leu Gln Lys Thr Tyr
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Glu Asn Asn Tyr Leu Ile Leu Thr Asn Ala Thr Leu Asp Arg Glu Lys
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Arg Ser Glu Tyr Ser Leu Thr Val Ile Ala Glu Asp Arg Gly Thr Pro
                405   410   415

Ser Leu Ser Thr Val Lys His Phe Thr Val Gln Ile Asn Asp Ile Asn
                420   425   430

Asp Asn Pro Pro His Phe Gln Arg Ser Arg Tyr Glu Phe Val Ile Ser
                435   440   445

Glu Asn Asn Ser Pro Gly Ala Tyr Ile Thr Thr Val Thr Ala Thr Asp
    450   455   460

Pro Asp Leu Gly Glu Asn Gly Gln Val Thr Tyr Thr Ile Leu Glu Ser
465   470   475   480

Phe Ile Leu Gly Ser Ser Ile Thr Thr Tyr Val Thr Ile Asp Pro Ser
                485   490   495

Asn Gly Ala Ile Tyr Ala Leu Arg Ile Phe Asp His Glu Glu Val Ser
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Gln Ile Thr Phe Val Val Glu Ala Arg Asp Gly Gly Ser Pro Lys Gln
                515   520   525

Leu Val Ser Asn Thr Thr Val Val Leu Thr Ile Ile Asp Glu Asn Asp
    530   535   540

Asn Val Pro Val Val Ile Gly Pro Ala Leu Arg Asn Asn Thr Ala Glu
545   550   555   560

Ile Thr Ile Pro Lys Gly Ala Glu Ser Gly Phe His Val Thr Arg Ile
                565   570   575

Arg Ala Ile Asp Arg Asp Ser Gly Val Asn Ala Glu Leu Ser Cys Ala
                580   585   590

Ile Val Ala Gly Asn Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg Ser
                595   600   605

Cys Asp Ile His Thr Asn Val Ser Met Asp Ser Val Pro Tyr Thr Glu
    610   615   620

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Trp Glu Leu Ser Val Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu His
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Thr Lys Val Leu Leu Lys Cys Met Ile Phe Glu Tyr Ala Glu Ser Val
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Thr Ser Thr Ala Met Thr Ser Val Ser Gln Ala Ser Leu Asp Val Ser
                660   665   670

Met Ile Ile Ile Ile Ser Leu Gly Ala Ile Cys Ala Val Leu Leu Val
                675   680   685

Ile Met Val Leu Phe Ala Thr Arg Cys Asn Arg Glu Lys Lys Asp Thr
            690   695   700

Arg Ser Tyr Asn Cys Arg Val Ala Glu Ser Thr Tyr Gln His His Pro
705   710   715   720

Lys Arg Pro Ser Arg Gln Ile His Lys Gly Asp Ile Thr Leu Val Pro
                725   730   735

Thr Ile Asn Gly Thr Leu Pro Ile Arg Ser His His Arg Ser Ser Pro
                740   745   750

Ser Ser Ser Pro Thr Leu Glu Arg Gly Gln Met Gly Ser Arg Gln Ser
                755   760   765

His Asn Ser His Gln Ser Leu Asn Ser Leu Val Thr Ile Ser Ser Asn
            770   775   780

His Val Pro Glu Asn Phe Ser Leu Glu Leu Thr His Ala Thr Pro Ala
785   790   795   800

Val Glu Gln Val Ser Gln Leu Leu Ser Met Leu His Gln Gly Gln Tyr
                805   810   815

Gln Pro Arg Pro Ser Phe Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg
                820   825   830

Tyr Ala Leu Gln Asp Met Asp Lys Phe Ser Leu Lys Asp Ser Gly Arg
            835   840   845

Gly Asp Ser Glu Ala Gly Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser
        850   855   860

Pro Ile Asp Arg Leu Leu Gly Glu Gly Phe Ser Asp Leu Phe Leu Thr
865   870   875   880

12

Asp Gly Arg Ile Pro Ala Ala Met Arg Leu Cys Thr Glu Glu Cys Arg
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Val Leu Gly His Ser Asp Gln Cys Trp Met Pro Pro Leu Pro Ser Pro
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Ser Ser Asp Tyr Arg Ser Asn Met Phe Ile Pro Gly Glu Glu Phe Pro
            915   920   925

Thr Gln Pro Gln Gln Gln His Pro His Gln Ser Leu Glu Asp Asp Ala
        930   935   940

Gln Pro Ala Asp Ser Gly Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly
945   950   955   960

Lys Asp Ser Pro Asn Asp Glu Asp Thr Gly Asp Thr Ser Thr Ser Ser
            965   970   975

Leu Leu Ser Glu Met Ser Ser Val Phe Gln Arg Leu Leu Pro Pro Ser
            980   985   990

Leu Asp Thr Tyr Ser Glu Cys Ser Glu Val Asp Arg Ser Asn Ser Leu
            995   1000   1005

Glu Arg Arg Lys Gly Pro Leu Pro Ala Lys Thr Val Gly Tyr Pro Gln
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Gly Val Ala Ala Trp Ala Ala Ser Thr His Phe Gln Asn Pro Thr Thr
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Asn Cys Gly Pro Pro Leu Gly Thr His Ser Ser Val Gln Pro Ser Ser
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Lys Trp Leu Pro Ala Met Glu Glu Ile Pro Glu Asn Tyr Glu Glu Asp
            1060   1065   1070

Asp Phe Asp Asn Val Leu Asn His Leu Asn Asp Gly Lys His Glu Leu
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Asn Pro Ser Thr Val Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro
            35   40   45

Leu Leu Val Val Asn Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr
    50   55   60

Ile Asp Arg Glu Gln Leu Cys Gln Lys Asn Leu Asn Cys Ser Ile Glu
65   70   75   80

Phe Asp Val Ile Thr Leu Pro Thr Glu His Leu Gln Leu Phe His Ile
                85   90   95

Glu Val Glu Val Leu Asp Ile Asn Asp Asn Ser Pro Gln Phe Ser Arg
            100   105   110

Ser Leu Ile Pro Ile Glu Ile Ser Glu Ser Ala Ala Val Gly Thr Arg
            115   120   125

Ile Pro Leu Asp Ser Ala Phe Asp Pro Asp Val Gly Glu Asn Ser Leu
    130   135   140

His Thr Tyr Ser Leu Ser Ala Asn Asp Phe Phe Asn Ile Glu Val Arg
145   150   155   160

Thr Arg Thr Asp Gly Ala Lys Tyr Ala Glu Leu Ile Val Val Arg Glu
                165   170   175

Leu Asp Arg Glu Leu Lys Ser Ser Tyr Glu Leu Gln Leu Thr Ala Ser
            180   185   190

Asp Met Gly Val Pro Gln Arg Ser Gly Ser Ser Ile Leu Lys Ile Ser
            195   200   205

Ile Ser Asp Ser Asn Asp Asn Ser Pro Ala Phe Glu Gln Gln Ser Tyr
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Ile Ile Gln Leu Leu Glu Asn Ser Pro Val Gly Thr Leu Leu Leu Asp

14

Leu Asn Ala Thr Asp Pro Asp Glu Gly Ala Asn Gly Lys Ile Val Tyr
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Ser Phe Ser Ser His Val Ser Pro Lys Ile Met Glu Thr Phe Lys Ile
                260   265   270

Asp Ser Glu Arg Gly His Leu Thr Leu Phe Lys Gln Val Asp Tyr Glu
        275   280   285

Ile Thr Lys Ser Tyr Glu Ile Asp Val Gln Ala Gln Asp Leu Gly Pro
    290   295   300

Asn Ser Ile Pro Ala His Cys Lys Ile Ile Ile Lys Val Val Asp Val
305   310   315   320

Asn Asp Asn Lys Pro Glu Ile Asn Ile Asn Leu Met Ser Pro Gly Lys
                325   330   335

Glu Glu Ile Ser Tyr Ile Phe Glu Gly Asp Pro Ile Asp Thr Phe Val
            340   345   350

Ala Leu Val Arg Val Gln Asp Lys Asp Ser Gly Leu Asn Gly Glu Ile
        355   360   365

Val Cys Lys Leu His Gly His Gly His Phe Lys Leu Gln Lys Thr Tyr
    370   375   380

Glu Asn Asn Tyr Leu Ile Leu Thr Asn Ala Thr Leu Asp Arg Glu Lys
385   390   395   400

Arg Ser Glu Tyr Ser Leu Thr Val Ile Ala Glu Asp Arg Gly Thr Pro
                405   410   415

Ser Leu Ser Thr Val Lys His Phe Thr Val Gln Ile Asn Asp Ile Asn
        420   425   430

Asp Asn Pro Pro His Phe Gln Arg Ser Arg Tyr Glu Phe Val Ile Ser
        435   440   445

Glu Asn Asn Ser Pro Gly Ala Tyr Ile Thr Thr Val Thr Ala Thr Asp
    450   455   460

Pro Asp Leu Gly Glu Asn Gly Gln Val Thr Tyr Thr Ile Leu Glu Ser
465   470   475   480

Phe Ile Leu Gly Ser Ser Ile Thr Thr Tyr Val Thr Ile Asp Pro Ser

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Asn Gly Ala Ile Tyr Ala Leu Arg Ile Phe Asp His Glu Glu Val Ser
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Gln Ile Thr Phe Val Val Glu Ala Arg Asp Gly Gly Ser Pro Lys Gln
        515   520   525

Leu Val Ser Asn Thr Thr Val Val Leu Thr Ile Ile Asp Glu Asn Asp
    530   535   540

Asn Val Pro Val Val Ile Gly Pro Ala Leu Arg Asn Asn Thr Ala Glu
545   550   555   560

Ile Thr Ile Pro Lys Gly Ala Glu Ser Gly Phe His Val Thr Arg Ile
                565   570   575

Arg Ala Ile Asp Arg Asp Ser Gly Val Asn Ala Glu Leu Ser Cys Ala
        580   585   590

Ile Val Ala Gly Asn Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg Ser
        595   600   605

Cys Asp Ile His Thr Asn Val Ser Met Asp Ser Val Pro Tyr Thr Glu
    610   615   620

Trp Glu Leu Ser Val Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu His
625   630   635   640

Thr Lys Val Leu Leu Lys Cys Met Ile Phe Glu Tyr Ala Glu Ser Val
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Thr Ser Thr Ala Met Thr Ser Val Ser Gln Ala Ser Leu Asp Val Ser
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          35   40   45

Pro Ile Arg Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr Leu
      50   55   60

Glu Arg Gly Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln Ser
 65   70   75   80

Leu Asn Ser Leu Val Thr Ile Ser Ser Asn His Val Pro Glu Asn Phe
              85   90   95

Ser Leu Glu Leu Thr His Ala Thr Pro Ala Val Glu Gln Val Ser Gln
              100   105   110

Leu Leu Ser Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser Phe
          115   120   125

Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp Met
          130   135   140

Asp Lys Phe Ser Leu Lys Asp Ser Gly Arg Gly Asp Ser Glu Ala Gly
145   150   155   160

Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu Leu
              165   170   175

Gly Glu Gly Phe Ser Asp Leu Phe Leu Thr Asp Gly Arg Ile Pro Ala
              180   185   190

Ala Met Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His Ser Asp
          195   200   205

17

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Asn Met Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln Gln Gln
225   230   235   240

His Pro His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp Ser Gly
                245   250   255

Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro Asn Asp
            260   265   270

Glu Asp Thr Gly Asp Thr Ser Thr Ser Ser Leu Leu Ser Glu Met Ser
            275   280   285

Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu Asp Thr Tyr Ser Glu
    290   295   300

Cys Ser Glu Val Asp Arg Ser Asn Ser Leu Glu Arg Arg Lys Gly Pro
305   310   315   320

Leu Pro Ala Lys Thr Val Gly Tyr Pro Gln Gly Val Ala Ala Trp Ala
                325   330   335

Ala Ser Thr His Phe Gln Asn Pro Thr Thr Asn Cys Gly Pro Pro Leu
            340   345   350

Gly Thr His Ser Ser Val Gln Pro Ser Ser Lys Trp Leu Pro Ala Met
            355   360   365

Glu Glu Ile Pro Glu Asn Tyr Glu Glu Asp Asp Phe Asp Asn Val Leu
    370   375   380

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gtagcaggta atgaggagaa tatcttcata attgatccac gatcatgtga catccatacc 1920
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aaaggcaatc ctcagctaca taccaaagtc cttctgaagt gcatgatctt tgaatatgca 2040
gagtcggtga caagtacagc aatgacttca gtaagccagg catccttgga tgtctccatg 2100
ataataatta tttccttagg agcaatttgt gcagtgttgc tggttattat ggtgctattt 2160
gcaactaggt gtaaccgcga gaagaaagac actagatcct ataactgcag ggtggccgaa 2220

                              23

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<212> PRT
<213> Homo sapiens

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Met His Gln Met Asn Ala Lys Met His Phe Arg Phe Val Phe Ala Leu
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Leu Ile Val Ser Phe Asn His Asp Val Leu Gly Lys Asn Leu Lys Tyr
              20                  25                  30


Arg Ile Tyr Glu Glu Gln Arg Val Gly Ser Val Ile Ala Arg Leu Ser
          35                  40                  45


Glu Asp Val Ala Asp Val Leu Leu Lys Leu Pro Asn Pro Ser Thr Val
      50                  55                  60


Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro Leu Leu Val Val Asn
 65                  70                  75                  80


Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr Ile Asp Arg Glu Gln
              85                  90                  95


Leu Cys Gln Lys Asn Leu Asn Cys Ser Ile Glu Phe Asp Val Ile Thr
             100                 105                 110
```

24

Leu Pro Thr Glu His Leu Gln Leu Phe His Ile Glu Val Glu Val Leu
        115   120   125

Asp Ile Asn Asp Asn Ser Pro Gln Phe Ser Arg Ser Leu Ile Pro Ile
        130   135   140

Glu Ile Ser Glu Ser Ala Ala Val Gly Thr Arg Ile Pro Leu Asp Ser
145   150   155   160

Ala Phe Asp Pro Asp Val Gly Glu Asn Ser Leu His Thr Tyr Ser Leu
            165   170   175

Ser Ala Asn Asp Phe Phe Asn Ile Glu Val Arg Thr Arg Thr Asp Gly
            180   185   190

Ala Lys Tyr Ala Glu Leu Ile Val Val Arg Glu Leu Asp Arg Glu Leu
        195   200   205

Lys Ser Ser Tyr Glu Leu Gln Leu Thr Ala Ser Asp Met Gly Val Pro
        210   215   220

Gln Arg Ser Gly Ser Ser Ile Leu Lys Ile Ser Ile Ser Asp Ser Asn
225   230   235   240

Asp Asn Ser Pro Ala Phe Glu Gln Gln Ser Tyr Ile Ile Gln Leu Leu
            245   250   255

Glu Asn Ser Pro Val Gly Thr Leu Leu Leu Asp Leu Asn Ala Thr Asp
            260   265   270

Pro Asp Glu Gly Ala Asn Gly Lys Ile Val Tyr Ser Phe Ser Ser His
        275   280   285

Val Ser Pro Lys Ile Met Glu Thr Phe Lys Ile Asp Ser Glu Arg Gly
        290   295   300

His Leu Thr Leu Phe Lys Gln Val Asp Tyr Glu Ile Thr Lys Ser Tyr
305   310   315   320

Glu Ile Asp Val Gln Ala Gln Asp Leu Gly Pro Asn Ser Ile Pro Ala
            325   330   335

His Cys Lys Ile Ile Ile Lys Val Val Asp Val Asn Asp Asn Lys Pro
            340   345   350

Glu Ile Asn Ile Asn Leu Met Ser Pro Gly Lys Glu Glu Ile Ser Tyr
        355   360   365

25

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Ile Phe Glu Gly Asp Pro Ile Asp Thr Phe Val Ala Leu Val Arg Val
    370                 375                 380

Gln Asp Lys Asp Ser Gly Leu Asn Gly Glu Ile Val Cys Lys Leu His
385                 390                 395                 400

Gly His Gly His Phe Lys Leu Gln Lys Thr Tyr Glu Asn Asn Tyr Leu
                405                 410                 415

Ile Leu Thr Asn Ala Thr Leu Asp Arg Glu Lys Arg Ser Glu Tyr Ser
                420                 425                 430

Leu Thr Val Ile Ala Glu Asp Arg Gly Thr Pro Ser Leu Ser Thr Val
                435                 440                 445

Lys His Phe Thr Val Gln Ile Asn Asp Ile Asn Asp Asn Pro Pro His
    450                 455                 460

Phe Gln Arg Ser Arg Tyr Glu Phe Val Ile Ser Glu Asn Asn Ser Pro
465                 470                 475                 480

Gly Ala Tyr Ile Thr Thr Val Thr Ala Thr Asp Pro Asp Leu Gly Glu
                485                 490                 495

Asn Gly Gln Val Thr Tyr Thr Ile Leu Glu Ser Phe Ile Leu Gly Ser
                500                 505                 510

Ser Ile Thr Thr Tyr Val Thr Ile Asp Pro Ser Asn Gly Ala Ile Tyr
                515                 520                 525

Ala Leu Arg Ile Phe Asp His Glu Glu Val Ser Gln Ile Thr Phe Val
    530                 535                 540

Val Glu Ala Arg Asp Gly Gly Ser Pro Lys Gln Leu Val Ser Asn Thr
545                 550                 555                 560

Thr Val Val Leu Thr Ile Ile Asp Glu Asn Asp Asn Val Pro Val Val
                565                 570                 575

Ile Gly Pro Ala Leu Arg Asn Asn Thr Ala Glu Ile Thr Ile Pro Lys
                580                 585                 590

Gly Ala Glu Ser Gly Phe His Val Thr Arg Ile Arg Ala Ile Asp Arg
                595                 600                 605

Asp Ser Gly Val Asn Ala Glu Leu Ser Cys Ala Ile Val Ala Gly Asn
    610                 615                 620
```

26

```
Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg Ser Cys Asp Ile His Thr
625             630             635             640

Asn Val Ser Met Asp Ser Val Pro Tyr Thr Glu Trp Glu Leu Ser Val
            645             650             655

Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu His Thr Lys Val Leu Leu
        660             665             670

Lys Cys Met Ile Phe Glu Tyr Ala Glu Ser Val Thr Ser Thr Ala Met
        675             680             685

Thr Ser Val Ser Gln Ala Ser Leu Asp Val Ser Met Ile Ile Ile Ile
        690             695             700

Ser Leu Gly Ala Ile Cys Ala Val Leu Leu Val Ile Met Val Leu Phe
705             710             715             720

Ala Thr Arg Cys Asn Arg Glu Lys Lys Asp Thr Arg Ser Tyr Asn Cys
            725             730             735

Arg Val Ala Glu Ser Thr Tyr Gln His His Pro Lys Arg Pro Ser Arg
            740             745             750

Gln Ile His Lys Gly Asp Ile Thr Leu Val Pro Thr Ile Asn Gly Thr
        755             760             765

Leu Pro Ile Arg Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr
        770             775             780

Leu Glu Arg Gly Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln
785             790             795             800

Ser Leu Asn Ser Leu Val Thr Ile Ser Ser Asn His Val Pro Glu Asn
            805             810             815

Phe Ser Leu Glu Leu Thr His Ala Thr Pro Ala Val Glu Val Ser Gln
        820             825             830

Leu Leu Ser Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser Phe
        835             840             845

Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp Met
    850             855             860

Asp Lys Phe Ser Leu Lys Asp Ser Gly Arg Gly Asp Ser Glu Ala Gly
865             870             875             880
```

```
Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu Leu
            885                 890                 895

Gly Glu Gly Phe Ser Asp Leu Phe Leu Thr Asp Gly Arg Ile Pro Ala
            900                 905                 910

Ala Met Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His Ser Asp
            915                 920                 925

Gln Cys Trp Met Pro Pro Leu Pro Ser Pro Ser Ser Asp Tyr Arg Ser
        930                 935                 940

Asn Met Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln Gln Gln
945                 950                 955                 960

His Pro His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp Ser Gly
            965                 970                 975

Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro Asn Asp
            980                 985                 990

Glu Asp Thr Gly Asp Thr Ser Thr Ser Ser Leu Leu Ser Glu Met Ser
            995                 1000                1005

Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu Asp Thr Tyr Ser Glu
    1010                1015                1020

Cys Ser Glu Val Asp Arg Ser Asn Ser Leu Glu Arg Arg Lys Gly Pro
1025                1030                1035                1040

Leu Pro Ala Lys Thr Val Gly Tyr Pro Gln Gly Val Ala Ala Trp Ala
                1045                1050                1055

Ala Ser Thr His Phe Gln Asn Pro Thr Thr Asn Cys Gly Pro Pro Leu
            1060                1065                1070

Gly Thr His Ser Ser Val Gln Pro Ser Ser Lys Trp Leu Pro Ala Met
        1075                1080                1085

Glu Glu Ile Pro Glu Asn Tyr Glu Glu Asp Asp Phe Asp Asn Val Leu
    1090                1095                1100

Asn His Leu Asn Asp Gly Lys His Glu Leu Met Asp Ala Ser Glu Leu
1105                1110                1115                1120

Val Ala Glu Ile Asn Lys Leu Leu Gln Asp Val Arg Gln Ser
            1125                1130
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28

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<210> 35
<211> 1107
<212> PRT
<213> Homo sapiens

<400> 35
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 1   5   10   15

Ile Ala Arg Leu Ser Glu Asp Val Ala Asp Val Leu Leu Lys Leu Pro
                20   25   30

Asn Pro Ser Thr Val Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro
            35   40   45

Leu Leu Val Val Asn Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr
        50   55   60

Ile Asp Arg Glu Gln Leu Cys Gln Lys Asn Leu Asn Cys Ser Ile Glu
 65   70   75   80

Phe Asp Val Ile Thr Leu Pro Thr Glu His Leu Gln Leu Phe His Ile
                85   90   95

Glu Val Glu Val Leu Asp Ile Asn Asp Asn Ser Pro Gln Phe Ser Arg
                100   105   110

Ser Leu Ile Pro Ile Glu Ile Ser Glu Ser Ala Ala Val Gly Thr Arg
            115   120   125

Ile Pro Leu Asp Ser Ala Phe Asp Pro Asp Val Gly Glu Asn Ser Leu
        130   135   140

His Thr Tyr Ser Leu Ser Ala Asn Asp Phe Phe Asn Ile Glu Val Arg
145   150   155   160

Thr Arg Thr Asp Gly Ala Lys Tyr Ala Glu Leu Ile Val Val Arg Glu
                165   170   175

Leu Asp Arg Glu Leu Lys Ser Ser Tyr Glu Leu Gln Leu Thr Ala Ser
            180   185   190

29

Asp Met Gly Val Pro Gln Arg Ser Gly Ser Ser Ile Leu Lys Ile Ser
        195   200   205

Ile Ser Asp Ser Asn Asp Asn Ser Pro Ala Phe Glu Gln Gln Ser Tyr .
        210   215   220

Ile Ile Gln Leu Leu Glu Asn Ser Pro Val Gly Thr Leu Leu Leu Asp
225   230   235   240

Leu Asn Ala Thr Asp Pro Asp Glu Gly Ala Asn Gly Lys Ile Val Tyr
                245   250   255

Ser Phe Ser Ser His Val Ser Pro Lys Ile Met Glu Thr Phe Lys Ile
            260   265   270

Asp Ser Glu Arg Gly His Leu Thr Leu Phe Lys Gln Val Asp Tyr Glu
            275   280   285

Ile Thr Lys Ser Tyr Glu Ile Asp Val Gln Ala Gln Asp Leu Gly Pro
        290   295   300

Asn Ser Ile Pro Ala His Cys Lys Ile Ile Ile Lys Val Val Asp Val
305   310   315   320

Asn Asp Asn Lys Pro Glu Ile Asn Ile Asn Leu Met Ser Pro Gly Lys
                325   330   335

Glu Glu Ile Ser Tyr Ile Phe Glu Gly Asp Pro Ile Asp Thr Phe Val
            340   345   350

Ala Leu Val Arg Val Gln Asp Lys Asp Ser Gly Leu Asn Gly Glu Ile
            355   360   365

Val Cys Lys Leu His Gly His Gly His Phe Lys Leu Gln Lys Thr Tyr
        370   375   380

Glu Asn Asn Tyr Leu Ile Leu Thr Asn Ala Thr Leu Asp Arg Glu Lys
385   390   395   400

Arg Ser Glu Tyr Ser Leu Thr Val Ile Ala Glu Asp Arg Gly Thr Pro
                405   410   415

Ser Leu Ser Thr Val Lys His Phe Thr Val Gln Ile Asn Asp Ile Asn
            420   425   430

Asp Asn Pro Pro His Phe Gln Arg Ser Arg Tyr Glu Phe Val Ile Ser
        435   440   445

30

Glu Asn Asn Ser Pro Gly Ala Tyr Ile Thr Thr Val Thr Ala Thr Asp
    450   455   460

Pro Asp Leu Gly Glu Asn Gly Gln Val Thr Tyr Thr Ile Leu Glu Ser
465   470   475   480

Phe Ile Leu Gly Ser Ser Ile Thr Thr Tyr Val Thr Ile Asp Pro Ser
            485   490   495

Asn Gly Ala Ile Tyr Ala Leu Arg Ile Phe Asp His Glu Glu Val Ser
            500   505   510

Gln Ile Thr Phe Val Val Glu Ala Arg Asp Gly Gly Ser Pro Lys Gln
            515   520   525

Leu Val Ser Asn Thr Thr Val Val Leu Thr Ile Ile Asp Glu Asn Asp
    530   535   540

Asn Val Pro Val Val Ile Gly Pro Ala Leu Arg Asn Asn Thr Ala Glu
545   550   555   560

Ile Thr Ile Pro Lys Gly Ala Glu Ser Gly Phe His Val Thr Arg Ile
            565   570   575

Arg Ala Ile Asp Arg Asp Ser Gly Val Asn Ala Glu Leu Ser Cys Ala
            580   585   590

Ile Val Ala Gly Asn Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg Ser
            595   600   605

Cys Asp Ile His Thr Asn Val Ser Met Asp Ser Val Pro Tyr Thr Glu
    610   615   620

Trp Glu Leu Ser Val Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu His
625   630   635   640

Thr Lys Val Leu Leu Lys Cys Met Ile Phe Glu Tyr Ala Glu Ser Val
            645   650   655

Thr Ser Thr Ala Met Thr Ser Val Ser Gln Ala Ser Leu Asp Val Ser
            660   665   670

Met Ile Ile Ile Ile Ser Leu Gly Ala Ile Cys Ala Val Leu Leu Val
            675   680   685

Ile Met Val Leu Phe Ala Thr Arg Cys Asn Arg Glu Lys Lys Asp Thr
    690   695   700

31

```
Arg Ser Tyr Asn Cys Arg Val Ala Glu Ser Thr Tyr Gln His His Pro
705             710         715                 720

Lys Arg Pro Ser Arg Gln Ile His Lys Gly Asp Ile Thr Leu Val Pro
            725         730                 735

Thr Ile Asn Gly Thr Leu Pro Ile Arg Ser His His Arg Ser Ser Pro
        740             745         750

Ser Ser Ser Pro Thr Leu Glu Arg Gly Gln Met Gly Ser Arg Gln Ser
        755             760         765

His Asn Ser His Gln Ser Leu Asn Ser Leu Val Thr Ile Ser Ser Asn
    770             775         780

His Val Pro Glu Asn Phe Ser Leu Glu Leu Thr His Ala Thr Pro Ala
785             790             795             800

Val Glu Val Ser Gln Leu Leu Ser Met Leu His Gln Gly Gln Tyr Gln
        805             810             815

Pro Arg Pro Ser Phe Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr
        820             825         830

Ala Leu Gln Asp Met Asp Lys Phe Ser Leu Lys Asp Ser Gly Arg Gly
        835             840         845

Asp Ser Glu Ala Gly Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser Pro
    850             855             860

Ile Asp Arg Leu Leu Gly Glu Gly Phe Ser Asp Leu Phe Leu Thr Asp
865             870             875             880

Gly Arg Ile Pro Ala Ala Met Arg Leu Cys Thr Glu Glu Cys Arg Val
            885             890             895

Leu Gly His Ser Asp Gln Cys Trp Met Pro Pro Leu Pro Ser Pro Ser
        900             905             910

Ser Asp Tyr Arg Ser Asn Met Phe Ile Pro Gly Glu Glu Phe Pro Thr
        915             920             925

Gln Pro Gln Gln Gln His Pro His Gln Ser Leu Glu Asp Asp Ala Gln
    930             935             940

Pro Ala Asp Ser Gly Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys
945             950             955             960
```

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Asp Ser Pro Asn Asp Glu Asp Thr Gly Asp Thr Ser Thr Ser Ser Leu
            965                 970                 975

Leu Ser Glu Met Ser Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu
            980                 985                 990

Asp Thr Tyr Ser Glu Cys Ser Glu Val Asp Arg Ser Asn Ser Leu Glu
        995                1000                1005

Arg Arg Lys Gly Pro Leu Pro Ala Lys Thr Val Gly Tyr Pro Gln Gly
    1010                1015                1020

Val Ala Ala Trp Ala Ala Ser Thr His Phe Gln Asn Pro Thr Thr Asn
1025                1030                1035                1040

Cys Gly Pro Pro Leu Gly Thr His Ser Ser Val Gln Pro Ser Ser Lys
            1045                1050                1055

Trp Leu Pro Ala Met Glu Glu Ile Pro Glu Asn Tyr Glu Glu Asp Asp
        1060                1065                1070

Phe Asp Asn Val Leu Asn His Leu Asn Asp Gly Lys His Glu Leu Met
        1075                1080                1085

Asp Ala Ser Glu Leu Val Ala Glu Ile Asn Lys Leu Leu Gln Asp Val
    1090                1095                1100

Arg Gln Ser
1105


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<210> 37
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<210> 38
<211> 423
<212> PRT
<213> Homo sapiens

<400> 38
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Ala Thr Arg Cys Asn Arg Glu Lys Lys Asp Thr Arg Ser Tyr Asn Cys
 1               5                  10                  15

Arg Val Ala Glu Ser Thr Tyr Gln His His Pro Lys Arg Pro Ser Arg
            20              25                  30

Gln Ile His Lys Gly Asp Ile Thr Leu Val Pro Thr Ile Asn Gly Thr
        35              40                  45

Leu Pro Ile Arg Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr
    50              55                  60

Leu Glu Arg Gly Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln
65              70              75                      80

Asn Phe Ser Leu Glu Leu Thr His Ala Thr Pro Ala Val Glu Val Ser
            85              90                  95

Gln Leu Leu Ser Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser
        100             105             110

Phe Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp
        115             120             125

Met Asp Lys Phe Ser Leu Lys Asp Ser Gly Arg Gly Asp Ser Glu Ala
    130             135             140

Gly Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu
145             150             155             160

Pro Ala Ala Met Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His
            165             170             175

Ser Asp Gln Cys Trp Met Pro Pro Leu Pro Ser Pro Ser Ser Asp Tyr
        180             185             190

Arg Ser Asn Met Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln
        195             200             205

Gln Gln His Pro His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp
    210             215             220

Ser Gly Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro
225             230             235             240

Ser Glu Met Ser Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu Asp
            245             250             255
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34

Thr Asn Cys Gly Pro Pro Leu Gly Thr His Ser Ser Val Gln Pro Ser
            260   265   270

His Glu Leu Met Asp Ala Ser Glu Leu Val Ala Glu Ile Asn Lys Leu
        275   280   285

Leu Gln Asp Val Arg Gln Ser
    290   295

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<213> Homo sapiens

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agaagccgat atgaatttgt aatttcagaa aataactcac caggggcata tatcaccact 180
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<212> DNA
<213> Mus sp.

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<400> 42
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 1   5   10   15

Tyr Leu Phe Ile Ser Gly Asp Cys Gln Glu Val Ala Thr Val Met Val
            20   25   30

Lys Phe Gln Val Thr Glu Glu Val Pro Ser Gly Thr Val Ile Gly Lys
            35   40   45

37

Asp Ala Phe Gln Ile Leu Gln Leu Pro Gln Ala Leu Pro Val Gln Met
        50   55   60

Asn Ser Glu Asp Gly Leu Leu Ser Thr Ser Ser Arg Leu Asp Arg Glu
 65   70   75   80

Lys Leu Cys Arg Gln Glu Asp Pro Cys Leu Val Ser Phe Asp Val Leu
            85   90   95

Ala Thr Gly Ala Ser Ala Leu Ile His Val Glu Ile Gln Val Leu Asp
            100   105   110

Ile Asn Asp His Gln Pro Gln Phe Pro Lys Asp Glu Gln Glu Leu Glu
            115   120   125

Ile Ser Glu Ser Ala Ser Leu His Thr Arg Ile Pro Leu Asp Arg Ala
        130   135   140

Leu Asp Gln Asp Thr Gly Pro Asn Ser Leu Tyr Ser Tyr Ser Leu Ser
145   150   155   160

Pro Ser Glu His Phe Ala Leu Asp Val Ile Val Gly Pro Asp Glu Thr
                165   170   175

Lys His Ala Glu Leu Val Val Val Lys Glu Leu Asp Arg Glu Leu His
            180   185   190

Ser Tyr Phe Asp Leu Val Leu Thr Ala Tyr Asp Asn Gly Asn Pro Pro
        195   200   205

Lys Ser Gly Ile Ser Val Val Lys Val Asn Val Leu Asp Ser Asn Asp
        210   215   220

Asn Ser Pro Val Phe Ala Glu Ser Ser Leu Ala Leu Glu Ile Pro Glu
225   230   235   240

Asp Thr Val Pro Gly Thr Leu Leu Ile Asn Leu Thr Ala Thr Asp Pro
                245   250   255

Asp Gln Gly Pro Asn Gly Glu Val Glu Phe Phe Phe Gly Lys His Val
            260   265   270

Ser Pro Glu Val Met Asn Thr Phe Gly Ile Asp Ala Lys Thr Gly Gln
        275   280   285

Ile Ile Leu Arg Gln Ala Leu Asp Tyr Glu Lys Asn Pro Ala Tyr Glu
    290   295   300

38

```
Val Asp Val Gln Ala Arg Asp Leu Gly Pro Asn Ser Ile Pro Gly His
305             310             315             320

Cys Lys Val Leu Ile Lys Val Leu Asp Val Asn Asp Asn Ala Pro Ser
                325             330             335

Ile Leu Ile Thr Trp Ala Ser Gln Thr Ser Leu Val Ser Glu Asp Leu
            340             345             350

Pro Arg Asp Ser Phe Ile Ala Leu Val Ser Ala Asn Asp Leu Asp Ser
            355             360             365

Gly Asn Asn Gly Leu Val His Cys Trp Leu Asn Gln Glu Leu Gly His
    370             375             380

Phe Arg Leu Lys Arg Thr Asn Gly Asn Thr Tyr Met Leu Leu Thr Asn
385             390             395             400

Ala Thr Leu Asp Arg Glu Gln Trp Pro Ile Tyr Thr Leu Thr Val Phe
            405             410             415

Ala Gln Asp Gln Gly Pro Gln Pro Leu Ser Ala Glu Lys Glu Leu Gln
            420             425             430

Ile Gln Val Ser Asp Val Asn Asp Asn Ala Pro Val Phe Glu Lys Ser
            435             440             445

Arg Tyr Glu Val Ser Thr Trp Glu Asn Asn Pro Pro Ser Leu His Leu
    450             455             460

Ile Thr Leu Lys Ala His Asp Ala Asp Leu Gly Ser Asn Gly Lys Val
465             470             475             480

Ser Tyr Arg Ile Lys Asp Ser Pro Val Ser His Leu Val Ile Ile Asp
            485             490             495

Phe Glu Thr Gly Glu Val Thr Ala Gln Arg Ser Leu Asp Tyr Glu Gln
            500             505             510

Met Ala Gly Phe Glu Phe Gln Val Ile Ala Glu Asp Arg Gly Gln Pro
            515             520             525

Gln Leu Ala Ser Ser Ile Ser Val Trp Val Ser Leu Leu Asp Ala Asn
    530             535             540

Asp Asn Ala Pro Glu Val Ile Gln Pro Val Leu Ser Glu Gly Lys Ala
545             550             555             560
```

Thr Leu Ser Val Leu Val Asn Ala Ser Thr Gly His Leu Leu Leu Pro
                565   570   575

Ile Glu Asn Pro Ser Gly Met Asp Pro Ala Gly Thr Gly Ile Pro Pro
                580   585   590

Lys Ala Thr His Ser Pro Trp Ser Phe Leu Leu Leu Thr Ile Val Ala
            595   600   605

Arg Asp Ala Asp Ser Gly Ala Asn Gly Glu Leu Phe Tyr Ser Ile Gln
        610   615   620

Ser Gly Asn Asp Ala His Leu Phe Phe Leu Ser Pro Ser Leu Gly Gln
625   630   635   640

Leu Phe Ile Asn Val Thr Asn Ala Ser Ser Leu Ile Gly Ser Gln Trp
                645   650   655

Asp Leu Gly Ile Val Val Glu Asp Gln Gly Ser Pro Ser Leu Gln Thr
            660   665   670

Gln Val Ser Leu Lys Val Val Phe Val Thr Ser Val Asp His Leu Arg
        675   680   685

Asp Ser Ala His Glu Pro Gly Val Leu Ser Thr Pro Ala Leu Ala Leu
        690   695   700

Ile Cys Leu Ala Val Leu Leu Ala Ile Phe Gly Leu Leu Leu Ala Leu
705   710   715   720

Phe Val Ser Ile Cys Arg Thr Glu Arg Lys Asp Asn Arg Ala Tyr Asn
            725   730   735

Cys Arg Glu Ala Glu Ser Ser Tyr Arg His Gln Pro Lys Arg Pro Gln
            740   745   750

Lys His Ile Gln Lys Ala Asp Ile His Leu Val Pro Val Leu Arg Ala
        755   760   765

His Glu Asn Glu Thr Asp Glu Val Arg Pro Ser His Lys Asp Thr Ser
    770   775   780

Lys Glu Thr Leu Met Glu Ala Gly Trp Asp Ser Cys Leu Glu Ala Pro
785   790   795   800

Phe His Leu Thr Pro Thr Leu Tyr Arg Thr Leu Arg Asn Gln Gly Asn
            805   810   815

40

```
Gln Gly Glu Leu Ala Glu Ser Gln Glu Val Leu Gln Asp Thr Phe Asn
        820                 825                 830

Phe Leu Phe Asn His Pro Arg Gln Arg Asn Ala Ser Arg Glu Asn Leu
        835                 840                 845

Asn Leu Pro Glu Ser Pro Pro Ala Val Arg Gln Pro Leu Leu Arg Pro
    850                 855                 860

Leu Lys Val Pro Gly Ser Pro Ile Ala Arg Ala Thr Gly Asp Gln Asp
865                 870                 875                 880

Lys Glu Glu Ala Pro Gln Ser Pro Pro Ala Ser Ser Ala Thr Leu Arg
                885                 890                 895

Arg Gln Arg Asn Phe Asn Gly Lys Val Ser Pro Arg Gly Glu Ser Gly
            900                 905                 910

Pro His Gln Ile Leu Arg Ser Leu Val Arg Leu Ser Val Ala Ala Phe
        915                 920                 925

Ala Glu Arg Asn Pro Val Glu Glu Pro Ala Gly Asp Ser Pro Pro Val
    930                 935                 940

Gln Gln Ile Ser Gln Leu Leu Ser Leu Leu His Gln Gly Gln Phe Gln
945                 950                 955                 960

Pro Lys Pro Asn His Arg Gly Asn Lys Tyr Leu Ala Lys Pro Gly Gly
            965                 970                 975

Ser Ser Arg Gly Thr Ile Pro Asp Thr Glu Gly Leu Val Gly Leu Lys
            980                 985                 990

Pro Ser Gly Gln Ala Glu Pro Asp Leu Glu Glu Gly Pro Pro Ser Pro
        995                 1000                1005

Leu Ser Ser Leu Leu Asp Pro Asn Thr Gly Leu Ala Leu Asp Lys Leu
    1010                1015                1020

Ser Pro Pro Asp Pro Ala Trp Met Ala Arg Leu Ser Leu Pro Leu Thr
1025                1030                1035                1040

Ser Glu Glu Pro Arg Thr Phe Gln Thr Phe Gly Lys Thr Val Gly Pro
            1045                1050                1055

Gly Pro Glu Leu Ser Pro Thr Gly Thr Arg Leu Ala Ser Thr Phe Val
        1060                1065                1070
```

41

Ser Glu Met Ser Ser Leu Leu Glu Met Leu Leu Gly Gln His Thr Val
        1075   1080   1085

Pro Val Glu Ala Ala Ser Ala Ala Leu Arg Arg Leu Ser Val Cys Gly
     1090   1095   1100

Arg Thr Leu Ser Leu Asp Leu Ala Thr Ser Gly Ala Ser Ala Ser Glu
1105   1110   1115   1120

Ala Gln Gly Arg Lys Lys Ala Ala Glu Ser Arg Leu Gly Cys Gly
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<210> 44
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<212> DNA
<213> Homo sapiens

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<211> 1095
<212> DNA
<213> Homo sapiens

<400> 52
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<210> 53
<211> 365
<212> PRT
<213> Homo sapiens

<400> 53
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Met Thr Trp Arg Ala Ala Ala Ser Thr Cys Ala Ala Leu Leu Ile Leu
 1               5                  10                  15

Leu Trp Ala Leu Thr Thr Glu Gly Asp Leu Lys Val Glu Met Met Ala
            20                  25                  30

Gly Gly Thr Gln Ile Thr Pro Leu Asn Asp Asn Val Thr Ile Phe Cys
        35                  40                  45

Asn Ile Phe Tyr Ser Gln Pro Leu Asn Ile Thr Ser Met Gly Ile Thr
    50                  55                  60
```

```
Trp Phe Trp Lys Ser Leu Thr Phe Asp Lys Glu Val Lys Val Phe Glu
 65              70              75                          80

Phe Phe Gly Asp His Gln Glu Ala Phe Arg Pro Gly Ala Ile Val Ser
                85              90                      95

Pro Trp Arg Leu Lys Ser Gly Asp Ala Ser Leu Arg Leu Pro Gly Ile
        100             105                 110

Gln Leu Glu Glu Ala Gly Glu Tyr Arg Cys Glu Val Val Val Thr Pro
        115             120                 125

Leu Lys Ala Gln Gly Thr Val Gln Leu Glu Val Val Ala Ser Pro Ala
    130             135                 140

Ser Arg Leu Leu Leu Asp Gln Val Gly Met Lys Glu Asn Glu Asp Lys
145             150             155                     160

Tyr Met Cys Glu Ser Ser Gly Phe Tyr Pro Glu Ala Ile Asn Ile Thr
            165             170                 175

Trp Glu Lys Gln Thr Gln Lys Phe Pro His Pro Ile Glu Ile Ser Glu
        180             185                 190

Asp Val Ile Thr Gly Pro Thr Ile Lys Asn Met Asp Gly Thr Phe Asn
        195             200             205

Val Thr Ser Cys Leu Lys Leu Asn Ser Ser Gln Glu Asp Pro Gly Thr
    210             215             220

Val Tyr Gln Cys Val Val Arg His Ala Ser Leu His Thr Pro Leu Arg
225             230             235                     240

Ser Asn Phe Thr Leu Thr Ala Ala Arg His Ser Leu Ser Glu Thr Glu
            245             250                 255

Lys Thr Asp Asn Phe Ser Ile His Trp Trp Pro Ile Ser Phe Ile Gly
            260             265                 270

Val Gly Leu Val Leu Leu Ile Val Leu Ile Pro Trp Lys Lys Val Arg
        275             280             285

Gly Ser Lys Ala Lys Phe Ser Pro Val Ser Trp Ala Ser Lys Lys Leu
    290             295             300

Leu Glu Gln Leu Leu Pro Thr Leu Gln Ala Ser Arg Asp Arg Pro Ala
305             310             315                     320
```

45

```
Gly Lys Asp Phe Val Ser Pro Ser Ser Pro Ser Gly Val Gly Asn Val
            325                 330                 335

Gly Cys Val Pro Ile Gln Phe Pro Ile Thr Glu Asp Leu Ala Val Thr
            340                 345                 350

Tyr His Leu Thr Ser Val Trp Trp Phe Val Thr Leu Gly
        355                 360                 365


<210> 54
<211> 341
<212> PRT
<213> Homo sapiens

<400> 54
Asp Leu Lys Val Glu Met Met Ala Gly Gly Thr Gln Ile Thr Pro Leu
 1               5                  10                  15

Asn Asp Asn Val Thr Ile Phe Cys Asn Ile Phe Tyr Ser Gln Pro Leu
            20                  25                  30

Asn Ile Thr Ser Met Gly Ile Thr Trp Phe Trp Lys Ser Leu Thr Phe
        35                  40                  45

Asp Lys Glu Val Lys Val Phe Glu Phe Phe Gly Asp His Gln Glu Ala
    50                  55                  60

Phe Arg Pro Gly Ala Ile Val Ser Pro Trp Arg Leu Lys Ser Gly Asp
65                  70                  75                  80

Ala Ser Leu Arg Leu Pro Gly Ile Gln Leu Glu Glu Ala Gly Glu Tyr
            85                  90                  95

Arg Cys Glu Val Val Val Thr Pro Leu Lys Ala Gln Gly Thr Val Gln
            100                 105                 110

Leu Glu Val Val Ala Ser Pro Ala Ser Arg Leu Leu Leu Asp Gln Val
        115                 120                 125

Gly Met Lys Glu Asn Glu Asp Lys Tyr Met Cys Glu Ser Ser Gly Phe
    130                 135                 140

Tyr Pro Glu Ala Ile Asn Ile Thr Trp Glu Lys Gln Thr Gln Lys Phe
145                 150                 155                 160

Pro His Pro Ile Glu Ile Ser Glu Asp Val Ile Thr Gly Pro Thr Ile
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Lys Asn Met Asp Gly Thr Phe Asn Val Thr Ser Cys Leu Lys Leu Asn
        180   185   190

Ser Ser Gln Glu Asp Pro Gly Thr Val Tyr Gln Cys Val Val Arg His
        195   200   205

Ala Ser Leu His Thr Pro Leu Arg Ser Asn Phe Thr Leu Thr Ala Ala
    210   215   220

Arg His Ser Leu Ser Glu Thr Glu Lys Thr Asp Asn Phe Ser Ile His
225   230   235   240

Trp Trp Pro Ile Ser Phe Ile Gly Val Gly Leu Val Leu Leu Ile Val
                245   250   255

Leu Ile Pro Trp Lys Lys Val Arg Gly Ser Lys Ala Lys Phe Ser Pro
        260   265   270

Val Ser Trp Ala Ser Lys Lys Leu Leu Glu Gln Leu Leu Pro Thr Leu
        275   280   285

Gln Ala Ser Arg Asp Arg Pro Ala Gly Lys Asp Phe Val Ser Pro Ser
    290   295   300

Ser Pro Ser Gly Val Gly Asn Val Gly Cys Val Pro Ile Gln Phe Pro
305   310   315   320

Ile Thr Glu Asp Leu Ala Val Thr Tyr His Leu Thr Ser Val Trp Trp
                325   330   335

Phe Val Thr Leu Gly
            340

<210> 55
<211> 24
<212> PRT
<213> Homo sapiens

<400> 55
Met Thr Trp Arg Ala Ala Ala Ser Thr Cys Ala Ala Leu Leu Ile Leu
  1   5   10   15

Leu Trp Ala Leu Thr Thr Glu Gly
            20

<210> 56
<211> 239
<212> PRT
<213> Homo sapiens

<400> 56

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Leu Lys Val Glu Met Met Ala Gly Gly Thr Gln Ile Thr Pro Leu Asn
 1               5                  10                  15

Asp Asn Val Thr Ile Phe Cys Asn Ile Phe Tyr Ser Gln Pro Leu Asn
            20                  25                  30

Ile Thr Ser Met Gly Ile Thr Trp Phe Trp Lys Ser Leu Thr Phe Asp
            35                  40                  45

Lys Glu Val Lys Val Phe Glu Phe Phe Gly Asp His Gln Glu Ala Phe
    50                  55                  60

Arg Pro Gly Ala Ile Val Ser Pro Trp Arg Leu Lys Ser Gly Asp Ala
65                  70                  75                  80

Ser Leu Arg Leu Pro Gly Ile Gln Leu Glu Glu Ala Gly Glu Tyr Arg
                85                  90                  95

Cys Glu Val Val Val Thr Pro Leu Lys Ala Gln Gly Thr Val Gln Leu
            100                 105                 110

Glu Val Val Ala Ser Pro Ala Ser Arg Leu Leu Leu Asp Gln Val Gly
            115                 120                 125

Met Lys Glu Asn Glu Asp Lys Tyr Met Cys Glu Ser Ser Gly Phe Tyr
    130                 135                 140

Pro Glu Ala Ile Asn Ile Thr Trp Glu Lys Gln Thr Gln Lys Phe Pro
145                 150                 155                 160

His Pro Ile Glu Ile Ser Glu Asp Val Ile Thr Gly Pro Thr Ile Lys
                165                 170                 175

Asn Met Asp Gly Thr Phe Asn Val Thr Ser Cys Leu Lys Leu Asn Ser
            180                 185                 190

Ser Gln Glu Asp Pro Gly Thr Val Tyr Gln Cys Val Val Arg His Ala
            195                 200                 205

Ser Leu His Thr Pro Leu Arg Ser Asn Phe Thr Leu Thr Ala Ala Arg
    210                 215                 220
```

48

His Ser Leu Ser Glu Thr Glu Lys Thr Asp Asn Phe Ser Ile His
225   230   235

<210> 57
<211> 84
<212> PRT
<213> Homo sapiens

<400> 57
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Asn Ile Thr Ser Met Gly Ile Thr Trp Phe Trp Lys Ser Leu Thr Phe
             20   25   30

Asp Lys Glu Val Lys Val Phe Glu Phe Phe Gly Asp His Gln Glu Ala
         35   40   45

Phe Arg Pro Gly Ala Ile Val Ser Pro Trp Arg Leu Lys Ser Gly Asp
     50   55   60

Ala Ser Leu Arg Leu Pro Gly Ile Gln Leu Glu Glu Ala Gly Glu Tyr
 65   70   75   80

Arg Cys Glu Val

<210> 58
<211> 68
<212> PRT
<213> Homo sapiens

<400> 58
Cys Glu Ser Ser Gly Phe Tyr Pro Glu Ala Ile Asn Ile Thr Trp Glu
 1   5   10   15

Lys Gln Thr Gln Lys Phe Pro His Pro Ile Glu Ile Ser Glu Asp Val
             20   25   30

Ile Thr Gly Pro Thr Ile Lys Asn Met Asp Gly Thr Phe Asn Val Thr
             35   40   45

Ser Cys Leu Lys Leu Asn Ser Ser Gln Glu Asp Pro Gly Thr Val Tyr
     50   55   60

49

Gln Cys Val Val
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<210> 59
<211> 18
<212> PRT
<213> Homo sapiens

<400> 59
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 1   5   10   15

Leu Ile

<210> 60
<211> 83
<212> PRT
<213> Homo sapiens

<400> 60
Pro Trp Lys Lys Val Arg Gly Ser Lys Ala Lys Phe Ser Pro Val Ser
 1   5   10   15

Trp Ala Ser Lys Lys Leu Leu Glu Gln Leu Leu Pro Thr Leu Gln Ala
             20   25   30

Ser Arg Asp Arg Pro Ala Gly Lys Asp Phe Val Ser Pro Ser Ser Pro
             35   40   45

Ser Gly Val Gly Asn Val Gly Cys Val Pro Ile Gln Phe Pro Ile Thr
     50   55   60

Glu Asp Leu Ala Val Thr Tyr His Leu Thr Ser Val Trp Trp Phe Val
 65   70   75   80

Thr Leu Gly

<210> 61
<211> 1402
<212> DNA
<213> Homo sapiens

<400> 61

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<210> 71
<211> 3594
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52

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<210> 72
<211> 2145
<212> DNA
<213> Homo sapiens

53

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<210> 73
<211> 715
<212> PRT
<213> Homo sapiens

<400> 73
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1   5   10   15

54

Arg Gly Leu Leu Ala Leu Leu Leu Ala Val Ser Ala Pro Leu Arg Leu
         20   25   30

Gln Ala Glu Glu Leu Gly Asp Gly Cys Gly His Leu Val Thr Tyr Gln
         35   40   45

Asp Ser Gly Thr Met Thr Ser Lys Asn Tyr Pro Gly Thr Tyr Pro Asn
         50   55   60

His Thr Val Cys Glu Lys Thr Ile Thr Val Pro Lys Gly Lys Arg Leu
65   70   75   80

Ile Leu Arg Leu Gly Asp Leu Asp Ile Glu Ser Gln Thr Cys Ala Ser
                 85   90   95

Asp Tyr Leu Leu Phe Thr Ser Ser Ser Asp Gln Tyr Gly Pro Tyr Cys
             100   105   110

Gly Ser Met Thr Val Pro Lys Glu Leu Leu Leu Asn Thr Ser Glu Val
             115   120   125

Thr Val Arg Phe Glu Ser Gly Ser His Ile Ser Gly Arg Gly Phe Leu
         130   135   140

Leu Thr Tyr Ala Ser Ser Asp His Pro Asp Leu Ile Thr Cys Leu Glu
145   150   155   160

Arg Ala Ser His Tyr Leu Lys Thr Glu Tyr Ser Lys Phe Cys Pro Ala
                 165   170   175

Gly Cys Arg Asp Val Ala Gly Asp Ile Ser Gly Asn Met Val Asp Gly
             180   185   190

Tyr Arg Asp Thr Ser Leu Leu Cys Lys Ala Ala Ile His Ala Gly Ile
         195   200   205

Ile Ala Asp Glu Leu Gly Gly Gln Ile Ser Val Leu Gln Arg Lys Gly
         210   215   220

Ile Ser Arg Tyr Glu Gly Ile Leu Ala Asn Gly Val Leu Ser Arg Asp
225   230   235   240

Gly Ser Leu Ser Asp Lys Arg Phe Leu Phe Thr Ser Asn Gly Cys Ser
                 245   250   255

Arg Ser Leu Ser Phe Glu Pro Asp Gly Gln Ile Arg Ala Ser Ser Ser
                 260   265   270

55

Trp Gln Ser Val Asn Glu Ser Gly Asp Gln Val His Trp Ser Pro Gly
    275   280   285

Gln Ala Arg Leu Gln Asp Gln Gly Pro Ser Trp Ala Ser Gly Asp Ser
    290   295   300

Ser Asn Asn His Lys Pro Arg Glu Trp Leu Glu Ile Asp Leu Gly Glu
305   310   315   320

Lys Lys Lys Ile Thr Gly Ile Arg Thr Thr Gly Ser Thr Gln Ser Asn
                325   330   335

Phe Asn Phe Tyr Val Lys Ser Phe Val Met Asn Phe Lys Asn Asn Asn
            340   345   350

Ser Lys Trp Lys Thr Tyr Lys Gly Ile Val Asn Asn Glu Glu Lys Val
        355   360   365

Phe Gln Gly Asn Ser Asn Phe Arg Asp Pro Val Gln Asn Asn Phe Ile
    370   375   380

Pro Pro Ile Val Ala Arg Tyr Val Arg Val Val Pro Gln Thr Trp His
385   390   395   400

Gln Arg Ile Ala Leu Lys Val Glu Leu Ile Gly Cys Gln Ile Thr Gln
            405   410   415

Gly Asn Asp Ser Leu Val Trp Arg Lys Thr Ser Gln Ser Thr Ser Val
            420   425   430

Ser Thr Lys Lys Glu Asp Glu Thr Ile Thr Arg Pro Ile Pro Ser Glu
        435   440   445

Glu Thr Ser Thr Gly Ile Asn Ile Thr Thr Val Ala Ile Pro Leu Val
    450   455   460

Leu Leu Val Val Leu Val Phe Ala Gly Met Gly Ile Phe Ala Ala Phe
465   470   475   480

Arg Lys Lys Lys Lys Lys Gly Ser Pro Tyr Gly Ser Ala Glu Ala Gln
                485   490   495

Lys Thr Asp Cys Trp Lys Gln Ile Lys Tyr Pro Phe Ala Arg His Gln
        500   505   510

Ser Ala Glu Phe Thr Ile Ser Tyr Asp Asn Glu Lys Glu Met Thr Gln
        515   520   525

56

Lys Leu Asp Leu Ile Thr Ser Asp Met Ala Asp Tyr Gln Gln Pro Leu
    530   535   540

Met Ile Gly Thr Gly Thr Val Thr Arg Lys Gly Ser Thr Phe Arg Pro
545   550   555   560

Met Asp Thr Asp Ala Glu Glu Ala Gly Val Ser Thr Asp Ala Gly Gly
                565   570   575

His Tyr Asp Cys Pro Gln Arg Ala Gly Arg His Glu Tyr Ala Leu Pro
                580   585   590

Leu Ala Pro Pro Glu Pro Glu Tyr Ala Thr Pro Ile Val Glu Arg His
            595   600   605

Val Leu Arg Ala His Thr Phe Ser Ala Gln Ser Gly Tyr Arg Val Pro
    610   615   620

Gly Pro Gln Pro Gly His Lys His Ser Leu Ser Ser Gly Gly Phe Ser
625   630   635   640

Pro Val Ala Gly Val Gly Ala Gln Asp Gly Asp Tyr Gln Arg Pro His
                645   650   655

Ser Ala Gln Pro Ala Asp Arg Gly Tyr Asp Arg Pro Lys Ala Val Ser
                660   665   670

Ala Leu Ala Thr Glu Ser Gly His Pro Asp Ser Gln Lys Pro Pro Thr
            675   680   685

His Pro Gly Thr Ser Asp Ser Tyr Ser Ala Pro Arg Asp Cys Leu Thr
    690   695   700

Pro Leu Asn Gln Thr Ala Met Thr Ala Leu Leu
705   710   715

<210> 74
<211> 34
<212> PRT
<213> Homo sapiens

<400> 74
Met Val Pro Gly Ala Arg Gly Gly Gly Ala Leu Ala Arg Ala Ala Gly
    1   5   10   15

Arg Gly Leu Leu Ala Leu Leu Leu Ala Val Ser Ala Pro Leu Arg Leu
                20   25   30

57

Gln Ala

<210> 75
<211> 681
<212> PRT
<213> Homo sapiens

<400> 75
Glu Glu Leu Gly Asp Gly Cys Gly His Leu Val Thr Tyr Gln Asp Ser
 1   5   10   15

Gly Thr Met Thr Ser Lys Asn Tyr Pro Gly Thr Tyr Pro Asn His Thr
             20   25   30

Val Cys Glu Lys Thr Ile Thr Val Pro Lys Gly Lys Arg Leu Ile Leu
         35   40   45

Arg Leu Gly Asp Leu Asp Ile Glu Ser Gln Thr Cys Ala Ser Asp Tyr
     50   55   60

Leu Leu Phe Thr Ser Ser Ser Asp Gln Tyr Gly Pro Tyr Cys Gly Ser
 65   70   75   80

Met Thr Val Pro Lys Glu Leu Leu Leu Asn Thr Ser Glu Val Thr Val
                 85   90   95

Arg Phe Glu Ser Gly Ser His Ile Ser Gly Arg Gly Phe Leu Leu Thr
             100   105   110

Tyr Ala Ser Ser Asp His Pro Asp Leu Ile Thr Cys Leu Glu Arg Ala
             115   120   125

Ser His Tyr Leu Lys Thr Glu Tyr Ser Lys Phe Cys Pro Ala Gly Cys
     130   135   140

Arg Asp Val Ala Gly Asp Ile Ser Gly Asn Met Val Asp Gly Tyr Arg
145   150   155   160

Asp Thr Ser Leu Leu Cys Lys Ala Ala Ile His Ala Gly Ile Ile Ala
                 165   170   175

Asp Glu Leu Gly Gly Gln Ile Ser Val Leu Gln Arg Lys Gly Ile Ser
             180   185   190

Arg Tyr Glu Gly Ile Leu Ala Asn Gly Val Leu Ser Arg Asp Gly Ser

Leu Ser Asp Lys Arg Phe Leu Phe Thr Ser Asn Gly Cys Ser Arg Ser
    210   215   220

Leu Ser Phe Glu Pro Asp Gly Gln Ile Arg Ala Ser Ser Ser Trp Gln
225   230   235   240

Ser Val Asn Glu Ser Gly Asp Gln Val His Trp Ser Pro Gly Gln Ala
                245   250   255

Arg Leu Gln Asp Gln Gly Pro Ser Trp Ala Ser Gly Asp Ser Ser Asn
            260   265   270

Asn His Lys Pro Arg Glu Trp Leu Glu Ile Asp Leu Gly Glu Lys Lys
            275   280   285

Lys Ile Thr Gly Ile Arg Thr Thr Gly Ser Thr Gln Ser Asn Phe Asn
        290   295   300

Phe Tyr Val Lys Ser Phe Val Met Asn Phe Lys Asn Asn Asn Ser Lys
305   310   315   320

Trp Lys Thr Tyr Lys Gly Ile Val Asn Asn Glu Glu Lys Val Phe Gln
                325   330   335

Gly Asn Ser Asn Phe Arg Asp Pro Val Gln Asn Asn Phe Ile Pro Pro
            340   345   350

Ile Val Ala Arg Tyr Val Arg Val Val Pro Gln Thr Trp His Gln Arg
            355   360   365

Ile Ala Leu Lys Val Glu Leu Ile Gly Cys Gln Ile Thr Gln Gly Asn
    370   375   380

Asp Ser Leu Val Trp Arg Lys Thr Ser Gln Ser Thr Ser Val Ser Thr
385   390   395   400

Lys Lys Glu Asp Glu Thr Ile Thr Arg Pro Ile Pro Ser Glu Glu Thr
            405   410   415

Ser Thr Gly Ile Asn Ile Thr Thr Val Ala Ile Pro Leu Val Leu Leu
            420   425   430

Val Val Leu Val Phe Ala Gly Met Gly Ile Phe Ala Ala Phe Arg Lys
            435   440   445

Lys Lys Lys Lys Gly Ser Pro Tyr Gly Ser Ala Glu Ala Gln Lys Thr

Asp Cys Trp Lys Gln Ile Lys Tyr Pro Phe Ala Arg His Gln Ser Ala
465   470   475   480

Glu Phe Thr Ile Ser Tyr Asp Asn Glu Lys Glu Met Thr Gln Lys Leu
                485   490   495

Asp Leu Ile Thr Ser Asp Met Ala Asp Tyr Gln Gln Pro Leu Met Ile
            500   505   510

Gly Thr Gly Thr Val Thr Arg Lys Gly Ser Thr Phe Arg Pro Met Asp
        515   520   525

Thr Asp Ala Glu Glu Ala Gly Val Ser Thr Asp Ala Gly Gly His Tyr
        530   535   540

Asp Cys Pro Gln Arg Ala Gly Arg His Glu Tyr Ala Leu Pro Leu Ala
545   550   555   560

Pro Pro Glu Pro Glu Tyr Ala Thr Pro Ile Val Glu Arg His Val Leu
                565   570   575

Arg Ala His Thr Phe Ser Ala Gln Ser Gly Tyr Arg Val Pro Gly Pro
            580   585   590

Gln Pro Gly His Lys His Ser Leu Ser Ser Gly Gly Phe Ser Pro Val
        595   600   605

Ala Gly Val Gly Ala Gln Asp Gly Asp Tyr Gln Arg Pro His Ser Ala
        610   615   620

Gln Pro Ala Asp Arg Gly Tyr Asp Arg Pro Lys Ala Val Ser Ala Leu
625   630   635   640

Ala Thr Glu Ser Gly His Pro Asp Ser Gln Lys Pro Pro Thr His Pro
                645   650   655

Gly Thr Ser Asp Ser Tyr Ser Ala Pro Arg Asp Cys Leu Thr Pro Leu
            660   665   670

Asn Gln Thr Ala Met Thr Ala Leu Leu
        675   680

<210> 76
<211> 421
<212> PRT

<213> Homo sapiens

<400> 76
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Gly Thr Met Thr Ser Lys Asn Tyr Pro Gly Thr Tyr Pro Asn His Thr
             20                  25                  30

Val Cys Glu Lys Thr Ile Thr Val Pro Lys Gly Lys Arg Leu Ile Leu
         35                  40                  45

Arg Leu Gly Asp Leu Asp Ile Glu Ser Gln Thr Cys Ala Ser Asp Tyr
     50                  55                  60

Leu Leu Phe Thr Ser Ser Ser Asp Gln Tyr Gly Pro Tyr Cys Gly Ser
 65                  70                  75                  80

Met Thr Val Pro Lys Glu Leu Leu Leu Asn Thr Ser Glu Val Thr Val
                 85                  90                  95

Arg Phe Glu Ser Gly Ser His Ile Ser Gly Arg Gly Phe Leu Leu Thr
             100                 105                 110

Tyr Ala Ser Ser Asp His Pro Asp Leu Ile Thr Cys Leu Glu Arg Ala
             115                 120                 125

Ser His Tyr Leu Lys Thr Glu Tyr Ser Lys Phe Cys Pro Ala Gly Cys
     130                 135                 140

Arg Asp Val Ala Gly Asp Ile Ser Gly Asn Met Val Asp Gly Tyr Arg
145                 150                 155                 160

Asp Thr Ser Leu Leu Cys Lys Ala Ala Ile His Ala Gly Ile Ile Ala
             165                 170                 175

Asp Glu Leu Gly Gly Gln Ile Ser Val Leu Gln Arg Lys Gly Ile Ser
             180                 185                 190

Arg Tyr Glu Gly Ile Leu Ala Asn Gly Val Leu Ser Arg Asp Gly Ser
         195                 200                 205

Leu Ser Asp Lys Arg Phe Leu Phe Thr Ser Asn Gly Cys Ser Arg Ser
     210                 215                 220

Leu Ser Phe Glu Pro Asp Gly Gln Ile Arg Ala Ser Ser Ser Trp Gln
225                 230                 235                 240
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Ser Val Asn Glu Ser Gly Asp Gln Val His Trp Ser Pro Gly Gln Ala
                    245   250   255

Arg Leu Gln Asp Gln Gly Pro Ser Trp Ala Ser Gly Asp Ser Ser Asn
                    260   265   270

Asn His Lys Pro Arg Glu Trp Leu Glu Ile Asp Leu Gly Glu Lys Lys
                    275   280   285

Lys Ile Thr Gly Ile Arg Thr Thr Gly Ser Thr Gln Ser Asn Phe Asn
        290   295   300

Phe Tyr Val Lys Ser Phe Val Met Asn Phe Lys Asn Asn Asn Ser Lys
305   310   315   320

Trp Lys Thr Tyr Lys Gly Ile Val Asn Asn Glu Glu Lys Val Phe Gln
                    325   330   335

Gly Asn Ser Asn Phe Arg Asp Pro Val Gln Asn Asn Phe Ile Pro Pro
                    340   345   350

Ile Val Ala Arg Tyr Val Arg Val Val Pro Gln Thr Trp His Gln Arg
                    355   360   365

Ile Ala Leu Lys Val Glu Leu Ile Gly Cys Gln Ile Thr Gln Gly Asn
        370   375   380

Asp Ser Leu Val Trp Arg Lys Thr Ser Gln Ser Thr Ser Val Ser Thr
385   390   395   400

Lys Lys Glu Asp Glu Thr Ile Thr Arg Pro Ile Pro Ser Glu Glu Thr
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Ser Thr Gly Ile Asn
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<212> PRT
<213> Homo sapiens

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<210> 78
<211> 235
<212> PRT
<213> Homo sapiens

<400> 78
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            20   25   30

Ser Ala Glu Phe Thr Ile Ser Tyr Asp Asn Glu Lys Glu Met Thr Gln
        35   40   45

Lys Leu Asp Leu Ile Thr Ser Asp Met Ala Asp Tyr Gln Gln Pro Leu
    50   55   60

Met Ile Gly Thr Gly Thr Val Thr Arg Lys Gly Ser Thr Phe Arg Pro
65   70   75   80

Met Asp Thr Asp Ala Glu Glu Ala Gly Val Ser Thr Asp Ala Gly Gly
            85   90   95

His Tyr Asp Cys Pro Gln Arg Ala Gly Arg His Glu Tyr Ala Leu Pro
            100   105   110

Leu Ala Pro Pro Glu Pro Glu Tyr Ala Thr Pro Ile Val Glu Arg His
        115   120   125

Val Leu Arg Ala His Thr Phe Ser Ala Gln Ser Gly Tyr Arg Val Pro
    130   135   140

Gly Pro Gln Pro Gly His Lys His Ser Leu Ser Ser Gly Gly Phe Ser
145   150   155   160

Pro Val Ala Gly Val Gly Ala Gln Asp Gly Asp Tyr Gln Arg Pro His
                165   170   175

Ser Ala Gln Pro Ala Asp Arg Gly Tyr Asp Arg Pro Lys Ala Val Ser
            180   185   190

Ala Leu Ala Thr Glu Ser Gly His Pro Asp Ser Gln Lys Pro Pro Thr
        195   200   205

His Pro Gly Thr Ser Asp Ser Tyr Ser Ala Pro Arg Asp Cys Leu Thr

63

Pro Leu Asn Gln Thr Ala Met Thr Ala Leu Leu
225   230   235

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<210> 80
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<210> 81
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64

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<213> Homo sapiens

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<212> PRT
<213> Homo sapiens

<400> 83
Met Asn Trp His Met Ile Ile Ser Gly Leu Ile Val Val Val Leu Lys
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Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Pro Gln Ile Phe Asn
              20                  25                  30


Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Ser
          35                  40                  45


Gln Ile Phe Gly Ser Ser Ser Pro Ser Pro Asn Gly Phe Ile Thr Thr
      50                  55                  60


Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala
 65                  70                  75                  80


Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg
                  85                  90                  95


Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro
              100                 105                 110
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Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe
        115   120   125

Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn
        130   135   140

Asn Ser Val Phe Asn Gly Asn Val Thr Asn Gln Asn Gln Asn Phe Asn
145   150   155   160

Cys Ala Thr Ile Gly Leu Thr Lys Thr Phe Asp Ala Ala Ser Cys Asp
                165   170   175

Ile Ser Tyr Arg Arg Ile Cys Glu Lys Asn Ala Lys
            180   185

<210> 84
<211> 19
<212> PRT
<213> Homo sapiens

<400> 84
Ser Gly Leu Ile Val Val Val Leu Lys Val Val Gly Met Thr Leu Phe
 1   5   10   15

Leu Leu Tyr

<210> 85
<211> 162
<212> PRT
<213> Homo sapiens

<400> 85
Phe Pro Gln Ile Phe Asn Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg
 1   5   10   15

Ser Tyr Gly Thr Val Ser Gln Ile Phe Gly Ser Ser Ser Pro Ser Pro
            20   25   30

Asn Gly Phe Ile Thr Thr Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp
            35   40   45

Trp Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser
        50   55   60

67

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Ser Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu
 65                  70                  75                  80

Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr
                 85                  90                  95

Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg Glu Glu Lys
             100                 105                 110

Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Asn Val Thr Asn
         115                 120                 125

Gln Asn Gln Asn Phe Asn Cys Ala Thr Ile Gly Leu Thr Lys Thr Phe
     130                 135                 140

Asp Ala Ala Ser Cys Asp Ile Ser Tyr Arg Arg Ile Cys Glu Lys Asn
145                 150                 155                 160

Ala Lys


<210> 86
<211> 187
<212> PRT
<213> Homo sapiens

<400> 86
Met Asn Trp His Met Ile Ile Ser Gly Leu Ile Val Val Val Leu Lys
 1               5                  10                  15

Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Pro Gln Ile Phe Asn
             20                  25                  30

Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Ser
         35                  40                  45

Gln Ile Phe Gly Ser Ser Ser Pro Ser Pro Asn Gly Phe Ile Thr Thr
     50                  55                  60

Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala
 65                  70                  75                  80

Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg
                 85                  90                  95

Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro
             100                 105                 110
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68

Glu Lys Leu Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile
        115   120   125

Gly Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn
        130   135   140

Ser Val Phe Asn Gly Asn Val Thr Asn Gln Asn Gln Asn Phe Asn Cys
145   150   155   160

Ala Thr Ile Gly Leu Thr Lys Thr Phe Asp Ala Ala Ser Cys Asp Ile
                165   170   175

Ser Tyr Arg Arg Ile Cys Glu Lys Asn Ala Lys
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<210> 88
<211> 190
<212> PRT
<213> Homo sapiens

<400> 88
Met Asn Trp His Met Ile Ile Ser Gly Leu Ile Val Val Val Ile Lys
  1   5   10   15

Val Val Gly Met Thr Phe Phe Leu Leu Tyr Phe Pro Gln Val Phe Gly
            20   25   30

Lys Ser Asn Asp Gly Phe Val Pro Thr Glu Ser Tyr Gly Thr Thr Ser
        35   40   45

Val Gln Asn Val Ser Gln Ile Phe Gly Arg Asn Asp Glu Ser Thr Met
    50   55   60

Pro Thr Arg Ser Tyr Gly Thr Val Cys Pro Arg Asn Trp Asp Phe His
65   70   75   80

Gln Gly Lys Cys Phe Phe Phe Ser Phe Ser Glu Ser Pro Trp Lys Asp
                85   90   95

Ser Met Asp Tyr Cys Ala Thr Gln Gly Ser Thr Leu Ala Ile Val Asn
                100   105   110

69

Thr Pro Glu Lys Leu Lys Tyr Leu Gln Asp Ile Ala Gly Ile Glu Asn
        115   120   125

Tyr Phe Ile Gly Leu Val Arg Gln Pro Gly Glu Lys Lys Trp Arg Trp
    130   135   140

Ile Asn Asn Ser Val Phe Asn Gly Asn Val Thr Asn Gln Asp Gln Asn
145   150   155   160

Phe Asp Cys Val Thr Ile Gly Leu Thr Lys Thr Tyr Asp Ala Ala Ser
                165   170   175

Cys Glu Val Ser Tyr Arg Trp Ile Cys Glu Met Asn Ala Lys
                180   185   190

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<210> 90
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<222> (3462)

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<221> unsure
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71

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<211> 534
<212> DNA
<213> Homo sapiens

<400> 92
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<210> 93
<211> 178
<212> PRT
<213> Homo sapiens

<400> 93
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1               5                   10                  15


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            20                  25                  30


Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Ser
        35                  40                  45


Gln Ile Phe Gly Ser Ser Ser Pro Ser Pro Asn Gly Phe Ile Thr Thr
    50                  55                  60
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Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala
65   70   75   80

Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg
                85   90   95

Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro
            100   105   110

Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe
        115   120   125

Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn
    130   135   140

Asn Ser Val Phe Asn Gly Lys Tyr Val Asn Met Pro Gln Phe Pro Gly
145   150   155   160

Asp Leu Gly Leu Leu Gln Lys Thr Lys Pro Glu Ile Ala Gly Phe Thr
                165   170   175

Leu Glu

<210> 94
<211> 21
<212> PRT
<213> Homo sapiens

<400> 94
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  1   5   10   15

Phe Leu Leu Tyr Phe
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<210> 95
<211> 151
<212> PRT
<213> Homo sapiens

<400> 95
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  1   5   10   15

73

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            20                  25                  30

Gly Phe Ile Thr Thr Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp Trp
            35                  40                  45

Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser
    50                  55                  60

Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala
65                  70                  75                  80

Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp
                85                  90                  95

Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg
            100                 105                 110

Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Lys Tyr Val Asn Met
            115                 120                 125

Pro Gln Phe Pro Gly Asp Leu Gly Leu Leu Gln Lys Thr Lys Pro Glu
    130                 135                 140

Ile Ala Gly Phe Thr Leu Glu
145                 150


<210> 96
<211> 3985
<212> DNA
<213> Homo sapiens

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<220>
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<222> (3488)

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tcccacagat ttttaacaaa agtaacgatg gtttcaccac caccaggagc tatggaacag 300
tctgccccaa agactgggaa ttttatcaag caagatgttt tttcttatcc acttctgaat 360
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74

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75

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<211> 495
<212> DNA
<213> Homo sapiens

<400> 97
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<210> 98
<211> 165
<212> PRT
<213> Homo sapiens

<400> 98
Met Asn Trp His Met Ile Ile Ser Gly Leu Ile Val Val Val Leu Lys
1               5                   10                  15


Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Pro Gln Ile Phe Asn
            20                  25                  30


Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Cys
        35                  40                  45


Pro Lys Asp Trp Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr
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Ser Glu Ser Ser Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly
    65   70   75   80

Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln
                85   90   95

Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg
            100   105   110

Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Asn
            115   120   125

Val Thr Asn Gln Asn Gln Asn Phe Asn Cys Ala Thr Ile Gly Leu Thr
        130   135   140

Lys Thr Phe Asp Ala Ala Ser Cys Asp Ile Ser Tyr Arg Arg Ile Cys
145   150   155   160

Glu Lys Asn Ala Lys
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<210> 99
<211> 21
<212> PRT
<213> Homo sapiens

<400> 99
Ile Ser Gly Leu Ile Val Val Val Leu Lys Val Val Gly Met Thr Leu
    1   5   10   15

Phe Leu Leu Tyr Phe
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<210> 100
<211> 138
<212> PRT
<213> Homo sapiens

<400> 100
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    1   5   10   15

Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala Arg Cys
                20   25   30

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Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg Asp Phe
        35                  40                  45

Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys
    50                  55                  60

Leu Lys Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly
65                  70                  75                  80

Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser
                85                  90                  95

Val Phe Asn Gly Asn Val Thr Asn Gln Asn Gln Asn Phe Asn Cys Ala
            100                 105                 110

Thr Ile Gly Leu Thr Lys Thr Phe Asp Ala Ala Ser Cys Asp Ile Ser
        115                 120                 125

Tyr Arg Arg Ile Cys Glu Lys Asn Ala Lys
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<210> 101
<211> 3958
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (3376)

<220>
<221> unsure
<222> (3435)

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gcaagtacgt gaacatgcca cagtttcctg gggatcttgg tttgcttcaa aagaccaaac 600
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78

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79

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<210> 102
<211> 465
<212> DNA
<213> Homo sapiens

<400> 102
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<210> 103
<211> 155
<212> PRT
<213> Homo sapiens

<400> 103
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 1               5                  10                  15

Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Pro Gln Ile Phe Asn
            20                  25                  30

Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Cys
        35                  40                  45

Pro Lys Asp Trp Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr
    50                  55                  60

Ser Glu Ser Ser Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly
65                  70                  75                  80

Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln
                85                  90                  95
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Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg
            100   105   110

Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Lys
            115   120   125

Tyr Val Asn Met Pro Gln Phe Pro Gly Asp Leu Gly Leu Leu Gln Lys
        130   135   140

Thr Lys Pro Glu Ile Ala Gly Phe Thr Leu Glu
145   150   155

<210> 104
<211> 21
<212> PRT
<213> Homo sapiens

<400> 104
Ile Ser Gly Leu Ile Val Val Val Leu Lys Val Val Gly Met Thr Leu
    1   5   10   15

Phe Leu Leu Tyr Phe
                20

<210> 105
<211> 128
<212> PRT
<213> Homo sapiens

<400> 105
Pro Gln Ile Phe Asn Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser
    1   5   10   15

Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala Arg Cys
                20   25   30

Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg Asp Phe
            35   40   45

Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys
        50   55   60

Leu Lys Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly
    65   70   75   80

Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser
                85   90   95

Val Phe Asn Gly Lys Tyr Val Asn Met Pro Gln Phe Pro Gly Asp Leu
           100   105   110

Gly Leu Leu Gln Lys Thr Lys Pro Glu Ile Ala Gly Phe Thr Leu Glu
         115   120   125

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<210> 106
<211> 3925
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (3369)

<220>
<221> unsure
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Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala
    50   55   60

Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp
65   70   75   80

Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg
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<213> Homo sapiens

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               20   25   30

Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln
           35   40   45

Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg
       50   55   60

Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Asn
 65   70   75   80

Val Thr Asn Gln Asn Gln Asn Phe Asn Cys Ala Thr Ile Gly Leu Thr
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Lys Thr Phe Asp Ala Ala Ser Cys Asp Ile Ser Tyr Arg Arg Ile Cys
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86

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Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Cys Pro Lys Asp Trp
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Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser
            35   40   45

Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala
        50   55   60

Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp
 65   70   75   80

Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg
                85   90   95

Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Lys Tyr Val Asn Met
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Pro Gln Phe Pro Gly Asp Leu Gly Leu Leu Gln Lys Thr Lys Pro Glu
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Phe Leu Leu Tyr Phe Cys
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88

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            20   25   30

Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln
        35   40   45

Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg
        50   55   60

Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Lys
65   70   75   80

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accggaaaga agtcaccgag cgtctactcc agaagtcagt atgtg 645

<210> 123
<211> 215
<212> PRT
<213> Homo sapiens

<400> 123
Leu Phe Leu Gly Gly Val Gly Met Val Gly Thr Val Ala Val Thr Val
 1   5   10   15

Met Pro Gln Trp Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val
            20   25   30

Phe Glu Asn Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala
        35   40   45

Asn Ile Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser
    50   55   60

Pro Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met
65   70   75   80

Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr Arg
                85   90   95

Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu Thr Ala
            100   105   110

Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile Pro Val Ser
        115   120   125

Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn Ser Ile Val Asn
    130   135   140

91

Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu Tyr Leu Gly Trp Thr
145   150   155   160

Thr Ala Leu Val Leu Ile Val Gly Gly Ala Leu Phe Cys Cys Val Phe
                165   170   175

Cys Cys Asn Glu Lys Ser Ser Ser Tyr Arg Tyr Ser Ile Pro Ser His
            180   185   190

Arg Thr Thr Gln Lys Ser Tyr His Thr Gly Lys Lys Ser Pro Ser Val
        195   200   205

Tyr Ser Arg Ser Gln Tyr Val
    210   215

<210> 124
<211> 24
<212> PRT
<213> Homo sapiens

<400> 124
Leu Phe Leu Gly Gly Val Gly Met Val Gly Thr Val Ala Val Thr Val
  1   5   10   15

Met Pro Gln Trp Arg Val Ser Ala
            20

<210> 125
<211> 47
<212> PRT
<213> Homo sapiens

<400> 125
Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn Phe Trp Glu Gly Leu
  1   5   10   15

Trp Met Asn Cys Val Arg Gln Ala Asn Ile Arg Met Gln Cys Lys Ile
            20   25   30

Tyr Asp Ser Leu Leu Ala Leu Ser Pro Asp Leu Gln Ala Ala Arg
        35   40   45

<210> 126
<211> 21
<212> PRT

92

<213> Homo sapiens

<400> 126
Gly Leu Met Cys Ala Ala Ser Val Met Ser Phe Leu Ala Phe Met Met
 1   5   10   15

Ala Ile Leu Gly Met
            20

<210> 127
<211> 15
<212> PRT
<213> Homo sapiens

<400> 127
Lys Cys Thr Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His
 1   5   10   15

<210> 128
<211> 24
<212> PRT
<213> Homo sapiens

<400> 128
Ile Leu Leu Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val
 1   5   10   15

Leu Ile Pro Val Ser Trp Val Ala
            20

<210> 129
<211> 22
<212> PRT
<213> Homo sapiens

<400> 129
Asn Ala Ile Ile Arg Asp Phe Tyr Asn Ser Ile Val Asn Val Ala Gln
 1   5   10   15

Lys Arg Glu Leu Gly Glu
            20

<210> 130
<211> 25

93

<212> PRT
<213> Homo sapiens

<400> 130
Ala Leu Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly
 1   5   10   15

Ala Leu Phe Cys Cys Val Phe Cys Cys
            20   25

<210> 131
<211> 37
<212> PRT
<213> Homo sapiens

<400> 131
Asn Glu Lys Ser Ser Ser Tyr Arg Tyr Ser Ile Pro Ser His Arg Thr
 1   5   10   15

Thr Gln Lys Ser Tyr His Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser
            20   25   30

Arg Ser Gln Tyr Val
        35

<210> 132
<211> 225
<212> PRT
<213> Mus sp.

<400> 132
Met Ala Thr Tyr Ala Leu Gln Met Ala Ala Leu Val Leu Gly Gly Val
 1   5   10   15

Gly Met Val Gly Thr Val Ala Val Thr Ile Met Pro Gln Trp Arg Val
            20   25   30

Ser Ala Phe Ile Glu Ser Asn Ile Val Val Phe Glu Asn Arg Trp Glu
            35   40   45

Gly Leu Trp Met Asn Cys Met Arg His Ala Asn Ile Arg Met Gln Cys
    50   55   60

Lys Val Tyr Asp Ser Leu Leu Ala Leu Ser Pro Asp Leu Gln Ala Ser
 65   70   75   80

94

```
Arg Gly Leu Met Cys Ala Ala Ser Val Leu Ala Phe Leu Ala Phe Met
              85                  90                  95

Thr Ala Ile Leu Gly Met Lys Cys Thr Arg Cys Thr Gly Asp Asp Glu
              100                 105                 110

Asn Val Lys Ser Arg Ile Leu Leu Thr Ala Gly Ile Ile Phe Phe Ile
              115                 120                 125

Thr Gly Leu Val Val Leu Ile Pro Val Ser Trp Val Ala Asn Ser Ile
              130                 135                 140

Ile Arg Asp Phe Tyr Asn Pro Leu Val Asp Val Ala Leu Lys Arg Glu
145                 150                 155                 160

Leu Gly Glu Ala Leu Tyr Ile Gly Trp Thr Thr Ala Leu Val Leu Ile
              165                 170                 175

Ala Gly Gly Ala Leu Phe Cys Cys Val Phe Cys Cys Thr Glu Arg Ser
              180                 185                 190

Asn Ser Tyr Arg Tyr Ser Val Pro Ser His Arg Thr Thr Gln Arg Ser
              195                 200                 205

Phe His Ala Glu Lys Arg Ser Pro Ser Ile Tyr Ser Lys Ser Gln Tyr
              210                 215                 220

Val
225


<210> 133
<211> 678
<212> PRT
<213> Mus sp.

<400> 133
Ala Thr Gly Gly Cys Ala Ala Cys Cys Thr Ala Cys Gly Cys Thr Cys
  1               5                   10                  15

Thr Thr Cys Ala Ala Ala Thr Gly Gly Cys Thr Gly Cys Ala Cys Thr
              20                  25                  30

Gly Gly Thr Gly Cys Thr Thr Gly Gly Thr Gly Gly Thr Gly Thr Thr
              35                  40                  45

Gly Gly Cys Ala Thr Gly Gly Thr Gly Gly Gly Cys Ala Cys Gly Gly
      50                  55                  60
```

95

```
Thr Gly Gly Cys Thr Gly Thr Gly Ala Cys Thr Ala Thr Cys Ala Thr
 65                 70                  75                      80

Gly Cys Cys Thr Cys Ala Gly Thr Gly Gly Ala Gly Ala Gly Thr Gly
                85                  90                  95

Thr Cys Thr Gly Cys Cys Thr Thr Cys Ala Thr Cys Gly Ala Ala Ala
                100                 105                 110

Gly Thr Ala Ala Cys Ala Thr Thr Gly Thr Gly Gly Thr Gly Thr Thr
            115                 120                 125

Thr Gly Ala Gly Ala Ala Cys Cys Gly Cys Thr Gly Gly Gly Ala Ala
        130                 135                 140

Gly Gly Cys Thr Thr Gly Thr Gly Gly Ala Thr Gly Ala Ala Thr Thr
145                 150                 155                 160

Gly Thr Ala Thr Gly Ala Gly Gly Cys Ala Thr Gly Cys Cys Ala Ala
                165                 170                 175

Cys Ala Thr Cys Ala Gly Ala Ala Thr Gly Cys Ala Gly Thr Gly Cys
            180                 185                 190

Ala Ala Gly Gly Thr Cys Thr Ala Cys Gly Ala Cys Thr Cys Cys Cys
        195                 200                 205

Thr Gly Cys Thr Gly Gly Cys Thr Cys Thr Ala Gly Thr Cys Cys
    210                 215                 220

Ala Gly Ala Cys Cys Thr Cys Cys Ala Gly Gly Cys Ala Thr Cys Cys
225                 230                 235                 240

Cys Gly Ala Gly Gly Ala Cys Thr Gly Ala Thr Gly Thr Gly Thr Gly
                245                 250                 255

Cys Thr Gly Cys Gly Thr Cys Cys Gly Thr Cys Thr Thr Gly Gly Cys
            260                 265                 270

Thr Thr Thr Cys Thr Thr Gly Gly Cys Thr Thr Thr Cys Ala Thr Gly
            275                 280                 285

Ala Cys Ala Gly Cys Cys Ala Thr Cys Cys Thr Cys Gly Gly Ala Ala
        290                 295                 300

Thr Gly Ala Ala Gly Thr Gly Cys Ala Cys Cys Ala Gly Ala Thr Gly
305                 310                 315                 320
```

96

Cys Ala Cys Gly Gly Gly Gly Gly Ala Cys Gly Ala Thr Gly Ala Gly
                325   330   335

Ala Ala Cys Gly Thr Gly Ala Ala Gly Ala Gly Cys Cys Gly Cys Ala
                340   345   350

Thr Cys Thr Thr Gly Cys Thr Gly Ala Cys Ala Gly Cys Cys Gly Gly
                355   360   365

Ala Ala Thr Cys Ala Thr Cys Thr Thr Cys Thr Thr Cys Ala Thr Cys
    370   375   380

Ala Cys Cys Gly Gly Cys Thr Thr Gly Gly Thr Thr Gly Thr Gly Cys
385   390   395   400

Thr Cys Ala Thr Cys Cys Cys Thr Gly Thr Cys Ala Gly Cys Thr Gly
                405   410   415

Gly Gly Thr Thr Gly Cys Cys Ala Ala Thr Thr Cys Cys Ala Thr Cys
                420   425   430

Ala Thr Cys Ala Gly Ala Gly Ala Cys Thr Thr Cys Thr Ala Cys Ala
                435   440   445

Ala Cys Cys Cys Ala Cys Thr Gly Gly Thr Gly Gly Ala Thr Gly Thr
    450   455   460

Gly Gly Cys Cys Cys Thr Ala Ala Ala Gly Cys Gly Cys Gly Ala Gly
465   470   475   480

Cys Thr Gly Gly Gly Ala Gly Ala Ala Gly Cys Cys Cys Thr Cys Thr
                485   490   495

Ala Cys Ala Thr Ala Gly Gly Cys Thr Gly Gly Ala Cys Cys Ala Cys
                500   505   510

Ala Gly Cys Gly Cys Thr Gly Gly Thr Gly Cys Thr Gly Ala Thr Cys
                515   520   525

Gly Cys Thr Gly Gly Ala Gly Gly Ala Gly Cys Ala Cys Thr Gly Thr
    530   535   540

Thr Cys Thr Gly Thr Thr Gly Thr Gly Thr Gly Thr Thr Thr Thr Gly
545   550   555   560

Thr Thr Gly Thr Ala Cys Thr Gly Ala Ala Ala Gly Gly Ala Gly Cys
                565   570   575

97

Ala Ala Cys Ala Gly Thr Thr Ala Cys Ala Gly Gly Thr Ala Cys Thr
            580   585   590

Cys Gly Gly Thr Ala Cys Cys Ala Thr Cys Cys Cys Ala Thr Cys Gly
            595   600   605

Cys Ala Cys Cys Ala Cys Thr Cys Ala Ala Cys Gly Gly Ala Gly Thr
        610   615   620

Thr Thr Cys Cys Ala Cys Gly Cys Cys Gly Ala Ala Ala Ala Gly Ala
625   630   635   640

Gly Ala Thr Cys Thr Cys Cys Gly Ala Gly Cys Ala Thr Ala Thr Ala
                645   650   655

Cys Thr Cys Cys Ala Ala Ala Ala Gly Thr Cys Ala Gly Thr Ala Thr
            660   665   670

Gly Thr Gly Thr Ala Gly
        675

<210> 134
<211> 1090
<212> PRT
<213> Homo sapiens

<400> 134
Gly Gly Gly Gly Cys Ala Gly Ala Ala Thr Gly Ala Gly Ala Thr Ala
   1   5   10   15

Thr Thr Ala Ala Ala Cys Cys Cys Ala Ala Thr Gly Cys Thr Thr Thr
            20   25   30

Gly Ala Thr Thr Gly Thr Thr Cys Thr Ala Gly Ala Ala Ala Gly Thr
        35   40   45

Ala Thr Ala Gly Thr Ala Ala Thr Thr Thr Gly Thr Thr Thr Thr Cys
    50   55   60

Thr Ala Ala Gly Gly Thr Gly Gly Thr Thr Cys Ala Ala Gly Cys Ala
65   70   75   80

Thr Cys Thr Ala Cys Thr Cys Thr Thr Thr Thr Ala Thr Cys Ala
            85   90   95

Thr Thr Thr Ala Cys Thr Thr Cys Ala Ala Ala Ala Thr Gly Ala Cys

98

                    100   105   110

Ala Thr Thr Gly Cys Thr Ala Ala Ala Gly Ala Cys Thr Gly Cys Ala
        115   120   125

Thr Thr Ala Thr Thr Thr Thr Ala Cys Thr Ala Cys Thr Gly Thr Ala
    130   135   140

Ala Thr Thr Thr Cys Thr Cys Cys Ala Cys Gly Ala Cys Ala Thr Ala
145   150   155   160

Gly Cys Ala Thr Thr Ala Thr Gly Thr Ala Cys Ala Thr Ala Gly Ala
                165   170   175

Thr Gly Ala Gly Thr Gly Thr Ala Ala Cys Ala Thr Thr Thr Ala Thr
        180   185   190

Ala Thr Cys Thr Cys Ala Cys Ala Thr Ala Gly Ala Gly Ala Cys Ala
        195   200   205

Thr Gly Cys Thr Thr Ala Thr Ala Thr Gly Gly Thr Thr Thr Thr Ala
    210   215   220

Thr Thr Thr Ala Ala Ala Ala Thr Gly Ala Ala Ala Thr Gly Cys Cys
225   230   235   240

Ala Gly Thr Cys Cys Ala Thr Thr Ala Cys Ala Cys Thr Gly Ala Ala
                245   250   255

Thr Ala Ala Ala Thr Ala Gly Ala Ala Cys Thr Cys Ala Ala Cys Thr
        260   265   270

Ala Thr Thr Gly Cys Thr Thr Thr Thr Cys Ala Gly Gly Gly Ala Ala
        275   280   285

Ala Thr Cys Ala Thr Gly Gly Ala Thr Ala Gly Gly Gly Thr Thr Gly
    290   295   300

Ala Ala Gly Ala Ala Gly Gly Thr Thr Ala Cys Thr Ala Thr Thr Ala
305   310   315   320

Ala Thr Thr Gly Thr Thr Thr Thr Ala Ala Ala Ala Ala Cys Ala Gly
            325   330   335

Cys Thr Thr Ala Gly Gly Gly Ala Thr Thr Ala Ala Thr Gly Thr Cys
        340   345   350

Cys Thr Cys Cys Ala Thr Thr Thr Ala Thr Ala Ala Thr Gly Ala Ala

                                99

Gly Ala Thr Thr Ala Ala Ala Ala Thr Gly Ala Ala Gly Gly Cys Thr
    370   375   380

Thr Thr Ala Ala Thr Cys Ala Gly Cys Ala Thr Thr Gly Thr Ala Ala
385   390   395   400

Ala Gly Gly Ala Ala Ala Thr Thr Gly Ala Ala Thr Gly Gly Cys Thr
            405   410   415

Thr Thr Cys Thr Gly Ala Thr Ala Thr Gly Cys Thr Gly Thr Thr Thr
        420   425   430

Thr Thr Thr Ala Gly Cys Cys Thr Ala Gly Gly Ala Gly Thr Thr Ala
        435   440   445

Gly Ala Ala Ala Thr Cys Cys Thr Ala Ala Cys Thr Thr Cys Thr Thr
    450   455   460

Thr Ala Thr Cys Cys Thr Cys Thr Thr Cys Thr Cys Cys Cys Ala Gly
465   470   475   480

Ala Gly Gly Cys Thr Thr Thr Thr Thr Thr Thr Thr Thr Cys Thr Thr
            485   490   495

Gly Thr Gly Thr Ala Thr Thr Ala Ala Ala Thr Thr Ala Ala Cys Ala
        500   505   510

Thr Thr Thr Thr Thr Ala Ala Ala Ala Ala Gly Cys Ala Gly Ala Thr
        515   520   525

Ala Thr Thr Thr Thr Gly Thr Cys Ala Ala Gly Gly Gly Gly Cys Thr
    530   535   540

Thr Thr Gly Cys Ala Thr Thr Cys Ala Ala Ala Cys Thr Gly Cys Thr
545   550   555   560

Thr Thr Thr Cys Cys Ala Gly Gly Gly Cys Thr Ala Thr Ala Cys Thr
            565   570   575

Cys Ala Gly Ala Ala Gly Ala Ala Ala Gly Ala Thr Ala Ala Ala Ala
        580   585   590

Gly Thr Gly Thr Gly Ala Thr Cys Thr Ala Ala Gly Ala Ala Ala Ala
    595   600   605

Ala Gly Thr Gly Ala Thr Gly Gly Thr Thr Thr Thr Ala Gly Gly Ala

Ala Ala Gly Thr Gly Ala Ala Ala Ala Thr Ala Thr Thr Thr Thr Thr
625   630   635   640

Gly Thr Thr Thr Thr Thr Gly Thr Ala Thr Thr Thr Gly Ala Ala Gly
                    645   650   655

Ala Ala Gly Ala Ala Thr Gly Ala Thr Gly Cys Ala Thr Thr Thr Thr
                 660   665   670

Gly Ala Cys Ala Ala Gly Ala Ala Ala Thr Cys Ala Thr Ala Thr Ala
             675   680   685

Thr Gly Thr Ala Thr Gly Gly Ala Thr Ala Thr Ala Thr Thr Thr Thr
       690   695   700

Ala Ala Thr Ala Ala Gly Thr Ala Thr Thr Thr Gly Ala Gly Thr Ala
705   710   715   720

Cys Ala Gly Ala Cys Thr Thr Thr Gly Ala Gly Gly Thr Thr Thr Cys
             725   730   735

Ala Thr Cys Ala Ala Thr Ala Thr Ala Ala Ala Thr Ala Ala Ala Ala
           740   745   750

Gly Ala Gly Cys Ala Gly Ala Ala Ala Ala Thr Ala Thr Gly Thr
           755   760   765

Cys Thr Thr Gly Gly Thr Thr Thr Thr Cys Ala Thr Thr Thr Gly Cys
       770   775   780

Thr Thr Ala Cys Cys Ala Ala Ala Ala Ala Ala Cys Ala Ala Cys
785   790   795   800

Ala Ala Cys Ala Ala Ala Ala Ala Ala Ala Gly Thr Thr Gly Thr Cys
             805   810   815

Cys Thr Thr Thr Gly Ala Gly Ala Ala Cys Thr Thr Cys Ala Cys Cys
           820   825   830

Thr Gly Cys Thr Cys Cys Thr Ala Thr Gly Thr Gly Gly Gly Thr Ala
         835   840   845

Cys Cys Thr Gly Ala Gly Thr Cys Ala Ala Ala Ala Thr Thr Gly Thr
   850   855   860

Cys Ala Thr Thr Thr Thr Thr Gly Thr Thr Cys Thr Gly Thr Gly Ala

101

Ala Ala Ala Ala Thr Ala Ala Ala Thr Thr Thr Cys Cys Thr Thr Cys
                885   890   895

Thr Thr Gly Thr Ala Cys Cys Ala Thr Thr Thr Cys Thr Gly Thr Thr
                900   905   910

Thr Ala Gly Thr Thr Thr Thr Ala Cys Thr Ala Ala Ala Ala Thr Cys
            915   920   925

Thr Gly Thr Ala Ala Ala Thr Ala Cys Thr Gly Thr Ala Thr Thr Thr
        930   935   940

Thr Thr Cys Thr Gly Thr Thr Thr Ala Thr Thr Cys Cys Ala Ala Ala
945   950   955   960

Thr Thr Thr Gly Ala Thr Gly Ala Ala Ala Cys Thr Gly Ala Cys Ala
                965   970   975

Ala Thr Cys Cys Ala Ala Thr Thr Thr Gly Ala Ala Ala Gly Thr Thr
                980   985   990

Thr Gly Thr Gly Thr Cys Gly Ala Cys Gly Thr Cys Thr Gly Thr Cys
            995   1000   1005

Thr Ala Gly Cys Thr Thr Ala Ala Ala Thr Gly Ala Ala Thr Gly Thr
        1010   1015   1020

Gly Thr Thr Cys Thr Ala Thr Thr Thr Gly Cys Thr Thr Thr Ala Thr
1025   1030   1035   1040

Ala Cys Ala Thr Thr Thr Ala Thr Ala Thr Thr Ala Ala Thr Ala Ala
                1045   1050   1055

Ala Thr Thr Gly Thr Ala Cys Ala Thr Thr Thr Thr Thr Cys Cys Ala
            1060   1065   1070

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
        1075   1080   1085

Ala Ala
    1090

<210> 135
<211> 209
<212> PRT

<213> Homo sapiens

<400> 135
Met Ala Ser Met Gly Leu Gln Val Met Gly Ile Ala Leu Ala Val Leu
 1   5   10   15

Gly Trp Leu Ala Val Met Leu Cys Cys Ala Leu Pro Met Trp Arg Val
              20   25   30

Thr Ala Phe Ile Gly Ser Asn Ile Val Thr Ser Gln Thr Ile Trp Glu
              35   40   45

Gly Leu Trp Met Asn Cys Val Val Gln Ser Thr Gly Gln Met Gln Cys
          50   55   60

Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln Asp Leu Gln Ala Ala
 65   70   75   80

Arg Ala Leu Val Ile Ile Ser Ile Ile Val Ala Ala Leu Gly Val Leu
                  85   90   95

Leu Ser Val Val Gly Gly Lys Cys Thr Asn Cys Leu Glu Asp Glu Ser
              100   105   110

Ala Lys Ala Lys Thr Met Ile Val Ala Gly Val Val Phe Leu Leu Ala
          115   120   125

Gly Leu Met Val Ile Val Pro Val Ser Trp Thr Ala His Asn Ile Ile
          130   135   140

Gln Asp Phe Tyr Asn Pro Leu Val Ala Ser Gly Gln Lys Arg Glu Met
145   150   155   160

Gly Ala Ser Leu Tyr Val Gly Trp Ala Ala Ser Gly Leu Leu Leu Leu
              165   170   175

Gly Gly Gly Leu Leu Cys Cys Asn Cys Pro Pro Arg Thr Asp Lys Pro
              180   185   190

Tyr Ser Ala Lys Tyr Ser Ala Ala Arg Ser Ala Ala Ala Ser Asn Tyr
          195   200   205

Val

<210> 136
<211> 210

<212> PRT
<213> Mus sp.

<400> 136
Met Ala Ser Met Gly Leu Gln Val Leu Gly Ile Ser Leu Ala Val Leu
 1   5   10   15

Gly Trp Leu Gly Ile Ile Leu Ser Cys Ala Leu Pro Met Trp Arg Val
            20   25   30

Thr Ala Phe Ile Gly Ser Asn Ile Val Thr Ala Gln Thr Ser Trp Glu
         35   40   45

Gly Leu Trp Met Asn Cys Val Val Gln Ser Thr Gly Gln Met Gln Cys
    50   55   60

Lys Met Tyr Asp Ser Met Leu Ala Leu Pro Gln Asp Leu Gln Ala Ala
65   70   75   80

Arg Ala Leu Met Val Ile Ser Ile Ile Val Gly Ala Leu Gly Met Leu
            85   90   95

Leu Ser Val Val Gly Gly Lys Cys Thr Asn Cys Met Glu Asp Glu Thr
            100   105   110

Val Lys Ala Lys Ile Met Ile Thr Ala Gly Ala Val Phe Ile Val Ala
        115   120   125

Ser Met Leu Ile Met Val Pro Val Ser Trp Thr Ala His Asn Val Ile
    130   135   140

Arg Asp Phe Tyr Asn Pro Met Val Ala Ser Gly Gln Lys Arg Glu Met
145   150   155   160

Gly Ala Ser Leu Tyr Val Gly Trp Ala Ala Ser Gly Leu Leu Leu Leu
            165   170   175

Gly Gly Gly Leu Leu Cys Cys Ser Cys Pro Pro Arg Ser Asn Asp Lys
            180   185   190

Pro Tyr Ser Ala Lys Tyr Ser Ala Ala Arg Ser Val Pro Ala Ser Asn
            195   200   205

Tyr Val
    210

<210> 137

104

<211> 248
<212> PRT
<213> Rattus sp.

<400> 137

```
Met Ser Met Ser Leu Glu Ile Thr Gly Thr Ser Leu Ala Val Leu Gly
 1               5                  10                  15

Trp Leu Cys Thr Ile Val Cys Cys Ala Leu Pro Met Trp Arg Val Ser
             20                  25                  30

Ala Phe Ile Gly Ser Ser Ile Ile Thr Ala Gln Ile Thr Trp Glu Gly
             35                  40                  45

Leu Trp Met Asn Cys Val Gln Ser Thr Gly Gln Met Gln Cys Lys Met
     50                  55                  60

Tyr Asp Ser Leu Leu Ala Leu Pro Gln Asp Leu Gln Ala Ala Arg Ala
 65                  70                  75                  80

Leu Ile Val Val Ser Ile Leu Leu Ala Ala Phe Gly Leu Leu Val Ala
                 85                  90                  95

Leu Val Gly Ala Gln Cys Thr Asn Cys Val Gln Asp Glu Thr Ala Lys
            100                 105                 110

Ala Lys Ile Thr Ile Val Ala Gly Val Leu Phe Leu Leu Ala Ala Val
            115                 120                 125

Leu Thr Leu Val Pro Val Ser Trp Ser Ala Asn Thr Ile Ile Arg Asp
     130                 135                 140

Phe Tyr Asn Pro Leu Val Pro Glu Ala Gln Lys Arg Glu Met Gly Thr
145                 150                 155                 160

Gly Leu Tyr Val Gly Trp Ala Ala Ala Leu Gln Leu Leu Gly Gly
             165                 170                 175

Ala Leu Leu Cys Cys Ser Cys Pro Pro Arg Glu Lys Tyr Ala Pro Thr
            180                 185                 190

Lys Ile Leu Tyr Ser Ala Pro Arg Ser Thr Gly Pro Gly Thr Gly Thr
            195                 200                 205

Gly Thr Ala Tyr Asp Arg Lys Thr Thr Ser Glu Arg Pro Gly Ala Arg
     210                 215                 220

Thr Pro His His His His Tyr Gln Pro Ser Met Tyr Pro Thr Arg Pro
```

105

Ala Cys Ser Leu Ala Ser Glu Thr
                245

<210> 138
<211> 191
<212> PRT
<213> Homo sapiens

<400> 138
Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn Phe Trp Glu Gly Leu
  1   5   10   15

Trp Met Asn Cys Val Arg Gln Ala Asn Ile Arg Met Gln Cys Lys Ile
            20   25   30

Tyr Asp Ser Leu Leu Ala Leu Ser Pro Asp Leu Gln Ala Ala Arg Gly
        35   40   45

Leu Met Cys Ala Ala Ser Val Met Ser Phe Leu Ala Phe Met Met Ala
    50   55   60

Ile Leu Gly Met Lys Cys Thr Arg Cys Thr Gly Asp Asn Glu Lys Val
 65   70   75   80

Lys Ala His Ile Leu Leu Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly
            85   90   95

Met Val Val Leu Ile Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg
            100   105   110

Asp Phe Tyr Asn Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly
        115   120   125

Glu Ala Leu Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly
    130   135   140

Gly Ala Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser
145   150   155   160

Tyr Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His
            165   170   175

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val
            180   185   190

106

<210> 139
<400> 139
000

<210> 140
<400> 140
000

<210> 141
<211> 323
<212> DNA
<213> Homo sapiens

<400> 141
cgagcggccg cccgggcagg tcagacatgg gccaaggagc cagaggccgt ccggggtctg 60
tgagttgagc ttgaggccgc aggatgaggg tcatcatggg gatagccagc ctggggttcc 120
tctgggcagt attcctgctt cctcttgtgt ttggggtccc cacagaggag actacctttg 180
gagaatctgt ggcctcccat ctccccaaag gctgtcgacg atgctgtgac cccgaggacc 240
tgatgtcctc tgatgatacg gtccaggccc ctgtttcccc ttatgtcctg cctgaagtca 300
ggccgtacct cggccgcgac cac 323

<210> 142
<211> 240
<212> DNA
<213> Homo. sapiens

<400> 142
atgagggtca tcatggggat agccagcctg gggttcctct gggcagtatt cctgcttcct 60
cttgtgtttg gggtccccac agaggagact acctttggag aatctgtggc ctcccatctc 120
cccaaaggct gtcgacgatg ctgtgacccc gaggacctga tgtcctctga tgatacggtc 180
caggcccctg tttccccta tgtcctgcct gaagtcaggc cgtacctcgg ccgcgaccac 240

<210> 143
<211> 80
<212> PRT
<213> Homo sapiens

<400> 143
Met Arg Val Ile Met Gly Ile Ala Ser Leu Gly Phe Leu Trp Ala Val
 1   5   10   15

Phe Leu Leu Pro Leu Val Phe Gly Val Pro Thr Glu Glu Thr Thr Phe
            20   25   30

Gly Glu Ser Val Ala Ser His Leu Pro Lys Gly Cys Arg Arg Cys Cys
    35   40   45

Asp Pro Glu Asp Leu Met Ser Ser Asp Asp Thr Val Gln Ala Pro Val
    50   55   60

Ser Pro Tyr Val Leu Pro Glu Val Arg Pro Tyr Leu Gly Arg Asp His
65   70   75   80

<210> 144
<211> 24
<212> PRT
<213> Homo sapiens

<400> 144
Met Arg Val Ile Met Gly Ile Ala Ser Leu Gly Phe Leu Trp Ala Val
 1   5   10   15

Phe Leu Leu Pro Leu Val Phe Gly
        20

<210> 145
<211> 56
<212> PRT
<213> Homo sapiens

<400> 145
Val Pro Thr Glu Glu Thr Thr Phe Gly Glu Ser Val Ala Ser His Leu
 1   5   10   15

Pro Lys Gly Cys Arg Arg Cys Cys Asp Pro Glu Asp Leu Met Ser Ser
        20   25   30

Asp Asp Thr Val Gln Ala Pro Val Ser Pro Tyr Val Leu Pro Glu Val
        35   40   45

Arg Pro Tyr Leu Gly Arg Asp His
     50   55

<210> 146
<400> 146

000

<210> 147
<400> 147
000

<210> 148
<400> 148
000

<210> 149
<400> 149
000   .

<210> 150
<400> 150
000

<210> 151
<211> 546
<212> DNA
<213> Homo sapiens

<400> 151
cggacgcgtg ggcggacgcg tggggttatt tctttggttg ttaggtataa tatgggcatt 60
taaaaacaac acccagtttt gtacttgtat aagtatggaa ttcttatata ggattgttgt 120
tggattcatt cttatcttta catttttttaa tattaaggga cagaatacca agtgtccaat 180
gtcttgttat tatattgtta gggtactggg cactttgggg atattgactg tattctgggt 240
ttgcccctc actattttta atccagacta ttttataacct atcagtataa ctatagttct 300
tactcttctt cttggaattc tttttcttat tgtttattat gggagttttc acccaaacag 360
aagtgcagaa acaaatgtg atgaaattga tggaaaacca gttctaagag aatgtagaat 420
gagatatttc ctaatggaat aagctattca tttatgatat atattttctt atatttttgtt 480
tcattggtta gtaaagaaaa tgtgtgttaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 540
aaaaaa   546

<210> 152
<211> 345
<212> DNA
<213> Homo sapiens

<400> 152
atggaattct tatataggat tgttgttgga ttcattcttta tctttacatt ttttaatatt 60

.

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aagggacaga ataccaagtg tccaatgtct tgttattata ttgttagggt actgggcact 120
ttggggatat tgactgtatt ctgggtttgc cccctcacta tttttaatcc agactatttt 180
atacctatca gtataactat agttcttact cttcttcttg gaattctttt tcttattgtt 240
tattatggga gttttcaccc aaacagaagt gcagaaacaa aatgtgatga aattgatgga 300
aaaccagttc taagagaatg tagaatgaga tatttcctaa tggaa             345
```

<210> 153
<211> 115
<212> PRT
<213> Homo sapiens

<400> 153

```
Met Glu Phe Leu Tyr Arg Ile Val Val Gly Phe Ile Leu Ile Phe Thr
 1               5                  10                  15

Phe Phe Asn Ile Lys Gly Gln Asn Thr Lys Cys Pro Met Ser Cys Tyr
            20                  25                  30

Tyr Ile Val Arg Val Leu Gly Thr Leu Gly Ile Leu Thr Val Phe Trp
        35                  40                  45

Val Cys Pro Leu Thr Ile Phe Asn Pro Asp Tyr Phe Ile Pro Ile Ser
    50                  55                  60

Ile Thr Ile Val Leu Thr Leu Leu Leu Gly Ile Leu Phe Leu Ile Val
65                  70                  75                  80

Tyr Tyr Gly Ser Phe His Pro Asn Arg Ser Ala Glu Thr Lys Cys Asp
                85                  90                  95

Glu Ile Asp Gly Lys Pro Val Leu Arg Glu Cys Arg Met Arg Tyr Phe
            100                 105                 110

Leu Met Glu
        115
```

<210> 154
<211> 22
<212> PRT
<213> Homo sapiens

<400> 154

```
Met Glu Phe Leu Tyr Arg Ile Val Val Gly Phe Ile Leu Ile Phe Thr
 1               5                  10                  15

Phe Phe Asn Ile Lys Gly
```

<210> 155
<211> 93
<212> PRT
<213> Homo sapiens

<400> 155
Gln Asn Thr Lys Cys Pro Met Ser Cys Tyr Tyr Ile Val Arg Val Leu
1   5   10   15

Gly Thr Leu Gly Ile Leu Thr Val Phe Trp Val Cys Pro Leu Thr Ile
            20   25   30

Phe Asn Pro Asp Tyr Phe Ile Pro Ile Ser Ile Thr Ile Val Leu Thr
            35   40   45

Leu Leu Leu Gly Ile Leu Phe Leu Ile Val Tyr Tyr Gly Ser Phe His
    50   55   60

Pro Asn Arg Ser Ala Glu Thr Lys Cys Asp Glu Ile Asp Gly Lys Pro
65   70   75   80

Val Leu Arg Glu Cys Arg Met Arg Tyr Phe Leu Met Glu
                85   90

<210> 156
<211> 9
<212> PRT
<213> Homo sapiens

<400> 156
Gln Asn Thr Lys Cys Pro Met Ser Cys
1   5

<210> 157
<211> 18
<212> PRT
<213> Homo sapiens

<400> 157
Tyr Tyr Ile Val Arg Val Leu Gly Thr Leu Gly Ile Leu Thr Val Phe
1   5   10   15

Trp Val

<210> 158
<211> 9
<212> PRT
<213> Homo sapiens

<400> 158
Cys Pro Leu Thr Ile Phe Asn Pro Asp
 1   5

<210> 159
<211> 24
<212> PRT
<213> Homo sapiens

<400> 159
Tyr Phe Ile Pro Ile Ser Ile Thr Ile Val Leu Thr Leu Leu Leu Gly
 1   5   10   15

Ile Leu Phe Leu Ile Val Tyr Tyr
            20

<210> 160
<211> 33
<212> PRT
<213> Homo sapiens

<400> 160
Gly Ser Phe His Pro Asn Arg Ser Ala Glu Thr Lys Cys Asp Glu Ile
 1   5   10   15

Asp Gly Lys Pro Val Leu Arg Glu Cys Arg Met Arg Tyr Phe Leu Met
            20   25   30

Glu

<210> 161
<400> 161
000

<210> 162

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<400> 162

000


<210> 163
<400> 163

000


<210> 164
<400> 164

000


<210> 165
<400> 165

000


<210> 166
<400> 166

000


<210> 167
<400> 167

000


<210> 168
<400> 168

000


<210> 169
<400> 169

000


<210> 170
<400> 170

000


<210> 171
<211> 1684
<212> DNA
<213> Homo sapiens
```

<400> 171

```
cggacgcggt gggcggacgc gtgggcagct gaagaaagag aggaatgaag cgccttctgc 60
ttctgttttt gttctttata acatttttctt ctgcatttcc cttagtccgg atgacggaaa 120
atgaagaaaa tatgcaactg gctcaggcat atctcaacca gttctactct cttgaaatag 180
aagggaatca tcttgttcaa agcaagaata ggagtctcat agatgacaaa attcgggaaa 240
tgcaagcatt ttttggattg acagtgactg gaaaactgga ctcaaacacc cttgagatca 300
tgaagacacc caggtgtggg gtgcctgatg tgggccagta tggctacacc ctccctgggt 360
ggagaaaata caacctcacc tacagaataa taaactatac tccggatatg gcacgagctg 420
ctgtggatga ggctatccaa gaaggtttag aagtgtggag caaagtcact ccactaaaat 480
tcaccaagat ttcaaagggg attgcagaca tcatgattgc ctttaggact cgagtccatg 540
gtcggtgtcc tcgctatttt gatggtccct gggagtgct tggccatgcc tttcctcctg 600
gtccgggtct gggtggtgac actcattttg atgaggatga aaactggacc aaggatggag 660
caggattcaa cttgtttctt gtggctgctc atgaatttgg tcatgcactg gggctctctc 720
actccaatga tcaaacagcc ttgatgttcc caaattatgt ctccctggat cccagaaaat 780
acccactttc tcaggatgat atcaatggaa tccagtccat ctatggaggt ctgcctaagg 840
tacctgctaa gccaaaggaa cccactatac cccatgcctg tgaccctgac ttgacttttg 900
acgctatcac aactttccgc agagaagtaa tgttctttaa aggcaggcac ctatggagga 960
tctattatga tatcacggat gttgagtttg aattaattgc ttcattctgg ccatctctgc 1020
cagctgatct gcaagctgca tacgagaacc ccagagataa gattctggtt tttaaagatg 1080
aaaacttctg gatgatcaga ggatatgctg tcttgccaga ttatcccaaa tccatccata 1140
cattaggttt tccaggacgt gtgaagaaaa tagatgcagc cgtctgtgat aagaccacaa 1200
gaaaaaccta cttctttgtg ggcatttggt gctggaggtt tgatgaaatg acccaaacca 1260
tggacaaagg attcccgcag agagtggtaa aacactttcc tggaatcagt atccgtgttg 1320
atgctgcttt ccagtacaaa ggattcttct ttttcagccg tggatcaaag caatttgaat 1380
acaacattaa gacaaagaat attacccgaa tcatgagaac taatacttgg tttcaatgca 1440
aagaaccaaa gaactcctca tttggttttg atatcaacaa ggaaaaagca cattcaggag 1500
gcataaagat attgtatcat aagagtttaa gcttgtttat ttttggtatt gttcatttgc 1560
tgaaaaacac ttctatttat caataaattc atagacctaa aataaacctc aacaggtctt 1620
ttaatataaa ttctgcttca aaatagaata aaaccattct ttaacaacaa aaaaaaaaaa 1680
aaaa                                                            1684
```

<210> 172
<211> 1542
<212> DNA
<213> Homo sapiens

<400> 172

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atgaagcgcc ttctgcttct gttttttgttc tttataacat tttcttctgc atttcccctta 60
gtccggatga cggaaaatga agaaaatatg caactggctc aggcatatct caaccagttc 120
tactctcttg aaatagaagg gaatcatctt gttcaaagca agaataggag tctcatagat 180
gacaaaattc gggaaatgca agcatttttt ggattgacag tgactggaaa actggactca 240
aacacccttg agatcatgaa gacacccagg tgtggggtgc ctgatgtggg ccagtatggc 300
tacaccctcc ctgggtggag aaaatacaac ctcacctaca gaataataaa ctatactccg 360
gatatggcac gagctgctgt ggatgaggct atccaagaag gtttagaagt gtggagcaaa 420
gtcactccac taaaattcac caagatttca aaggggattg cagacatcat gattgccttt 480
aggactcgag tccatggtcg gtgtcctcgc tattttgatg gtcccttggg agtgcttggc 540
```

```
catgccttc   ctcctggtcc   gggtctgggt   ggtgacactc   attttgatga   ggatgaaaac   600
tggaccaagg   atggagcagg   attcaactg   tttcttgtgg   ctgctcatga   atttggtcat   660
gcactggggc   tctctcactc   caatgatcaa   acagccttga   tgttcccaaa   ttatgtctcc   720
ctggatccca   gaaaataccc   actttctcag   gatgatatca   atggaatcca   gtccatctat   780
ggaggtctgc   ctaaggtacc   tgctaagcca   aaggaaccca   ctataccca   tgcctgtgac   840
cctgacttga   cttttgacgc   tatcacaact   ttccgcagag   aagtaatgtt   ctttaaaggc   900
aggcacctat   ggaggatcta   ttatgatatc   acggatgttg   agtttgaatt   aattgcttca   960
ttctggccat   ctctgccagc   tgatctgcaa   gctgcatacg   agaacccag   agataagatt   1020
ctggttttta   aagatgaaaa   cttctggatg   atcagaggat   atgctgtctt   gccagattat   1080
cccaaatcca   tccatacatt   aggttttcca   ggacgtgtga   agaaaataga   tgcagccgtc   1140
tgtgataaga   ccacaagaaa   aacctacttc   tttgtgggca   tttggtgctg   gaggtttgat   1200
gaaatgaccc   aaaccatgga   caaaggattc   ccgcagagag   tggtaaaaca   cttttcctgga   1260
atcagtatcc   gtgttgatgc   tgctttccag   tacaaaggat   cttctttttt   cagccgtgga   1320
tcaaagcaat   ttgaatacaa   cattaagaca   aagaatatta   cccgaatcat   gagaactaat   1380
acttggtttc   aatgcaaaga   accaaagaac   tcctcatttg   gttttgatat   caacaaggaa   1440
aaagcacatt   caggaggcat   aaagatattg   tatcataaga   gtttaagctt   gtttattttt   1500
ggtattgttc   atttgctgaa   aaacacttct   atttatcaat   aa                        1542


<210> 173
<211> 513
<212> PRT
<213> Homo sapiens

<400> 173
Met Lys Arg Leu Leu Leu Leu Phe Leu Phe Phe Ile Thr Phe Ser Ser
 1               5                   10                  15


Ala Phe Pro Leu Val Arg Met Thr Glu Asn Glu Glu Asn Met Gln Leu
            20                  25                  30


Ala Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Asn
        35                  40                  45


His Leu Val Gln Ser Lys Asn Arg Ser Leu Ile Asp Asp Lys Ile Arg
    50                  55                  60


Glu Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser
65                  70                  75                  80


Asn Thr Leu Glu Ile Met Lys Thr Pro Arg Cys Gly Val Pro Asp Val
                85                  90                  95


Gly Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Asn Leu Thr
            100                 105                 110


Tyr Arg Ile Ile Asn Tyr Thr Pro Asp Met Ala Arg Ala Ala Val Asp
        115                 120                 125


                               115
```

Glu Ala Ile Gln Glu Gly Leu Glu Val Trp Ser Lys Val Thr Pro Leu
    130   135   140

Lys Phe Thr Lys Ile Ser Lys Gly Ile Ala Asp Ile Met Ile Ala Phe
145   150   155   160

Arg Thr Arg Val His Gly Arg Cys Pro Arg Tyr Phe Asp Gly Pro Leu
                165   170   175

Gly Val Leu Gly His Ala Phe Pro Pro Gly Pro Gly Leu Gly Gly Asp
                180   185   190

Thr His Phe Asp Glu Asp Glu Asn Trp Thr Lys Asp Gly Ala Gly Phe
                195   200   205

Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ala Leu Gly Leu
    210   215   220

Ser His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Val Ser
225   230   235   240

Leu Asp Pro Arg Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asn Gly Ile
                245   250   255

Gln Ser Ile Tyr Gly Gly Leu Pro Lys Val Pro Ala Lys Pro Lys Glu
                260   265   270

Pro Thr Ile Pro His Ala Cys Asp Pro Asp Leu Thr Phe Asp Ala Ile
                275   280   285

Thr Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp
    290   295   300

Arg Ile Tyr Tyr Asp Ile Thr Asp Val Glu Phe Glu Leu Ile Ala Ser
305   310   315   320

Phe Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Asn Pro
                325   330   335

Arg Asp Lys Ile Leu Val Phe Lys Asp Glu Asn Phe Trp Met Ile Arg
                340   345   350

Gly Tyr Ala Val Leu Pro Asp Tyr Pro Lys Ser Ile His Thr Leu Gly
    355   360   365

Phe Pro Gly Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp Lys Thr
    370   375   380

116

Thr Arg Lys Thr Tyr Phe Phe Val Gly Ile Trp Cys Trp Arg Phe Asp
385   390   395   400

Glu Met Thr Gln Thr Met Asp Lys Gly Phe Pro Gln Arg Val Val Lys
                405   410   415

His Phe Pro Gly Ile Ser Ile Arg Val Asp Ala Ala Phe Gln Tyr Lys
            420   425   430

Gly Phe Phe Phe Phe Ser Arg Gly Ser Lys Gln Phe Glu Tyr Asn Ile
        435   440   445

Lys Thr Lys Asn Ile Thr Arg Ile Met Arg Thr Asn Thr Trp Phe Gln
    450   455   460

Cys Lys Glu Pro Lys Asn Ser Ser Phe Gly Phe Asp Ile Asn Lys Glu
465   470   475   480

Lys Ala His Ser Gly Gly Ile Lys Ile Leu Tyr His Lys Ser Leu Ser
                485   490   495

Leu Phe Ile Phe Gly Ile Val His Leu Leu Lys Asn Thr Ser Ile Tyr
            500   505   510

Gln

<210> 174
<211> 17
<212> PRT
<213> Homo sapiens

<400> 174
Met Lys Arg Leu Leu Leu Leu Phe Leu Phe Phe Ile Thr Phe Ser Ser
  1   5   10   15

Ala

<210> 175
<211> 291
<212> PRT
<213> Homo sapiens

<400> 175

117

```
Phe Pro Leu Val Arg Met Thr Glu Asn Glu Glu Asn Met Gln Leu Ala
 1               5                  10                  15

Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Asn His
            20                  25                  30

Leu Val Gln Ser Lys Asn Arg Ser Leu Ile Asp Asp Lys Ile Arg Glu
            35                  40                  45

Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser Asn
    50                  55                  60

Thr Leu Glu Ile Met Lys Thr Pro Arg Cys Gly Val Pro Asp Val Gly
65                  70                  75                  80

Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Asn Leu Thr Tyr
                85                  90                  95

Arg Ile Ile Asn Tyr Thr Pro Asp Met Ala Arg Ala Ala Val Asp Glu
            100                 105                 110

Ala Ile Gln Glu Gly Leu Glu Val Trp Ser Lys Val Thr Pro Leu Lys
            115                 120                 125

Phe Thr Lys Ile Ser Lys Gly Ile Ala Asp Ile Met Ile Ala Phe Arg
    130                 135                 140

Thr Arg Val His Gly Arg Cys Pro Arg Tyr Phe Asp Gly Pro Leu Gly
145                 150                 155                 160

Val Leu Gly His Ala Phe Pro Pro Gly Pro Gly Leu Gly Gly Asp Thr
                165                 170                 175

His Phe Asp Glu Asp Glu Asn Trp Thr Lys Asp Gly Ala Gly Phe Asn
            180                 185                 190

Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ala Leu Gly Leu Ser
    195                 200                 205

His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Val Ser Leu
    210                 215                 220

Asp Pro Arg Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asn Gly Ile Gln
225                 230                 235                 240

Ser Ile Tyr Gly Gly Leu Pro Lys Val Pro Ala Lys Pro Lys Glu Pro
                245                 250                 255
```

```
Thr Ile Pro His Ala Cys Asp Pro Asp Leu Thr Phe Asp Ala Ile Thr
        260                 265                 270

Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp Arg
        275                 280                 285

Ile Tyr Tyr
        290


<210> 176
<211> 467
<212> PRT
<213> Homo sapiens

<400> 176
Met Phe Ser Leu Lys Thr Leu Pro Phe Leu Leu Leu Leu His Val Gln
  1               5                  10                  15

Ile Ser Lys Ala Phe Pro Val Ser Ser Lys Glu Lys Asn Thr Lys Thr
            20                  25                  30

Val Gln Asp Tyr Leu Glu Lys Phe Tyr Gln Leu Pro Ser Asn Gln Tyr
            35                  40                  45

Gln Ser Thr Arg Lys Asn Gly Thr Asn Val Ile Val Glu Lys Leu Lys
        50                  55                  60

Glu Met Gln Arg Phe Phe Gly Leu Asn Val Thr Gly Lys Pro Asn Glu
 65                  70                  75                  80

Glu Thr Leu Asp Met Met Lys Lys Pro Arg Cys Gly Val Pro Asp Ser
                85                  90                  95

Gly Gly Phe Met Leu Thr Pro Gly Asn Pro Lys Trp Glu Arg Thr Asn
            100                 105                 110

Leu Thr Tyr Arg Ile Arg Asn Tyr Thr Pro Gln Leu Ser Glu Ala Glu
            115                 120                 125

Val Glu Arg Ala Ile Lys Asp Ala Phe Glu Leu Trp Ser Val Ala Ser
        130                 135                 140

Pro Leu Ile Phe Thr Arg Ile Ser Gln Gly Glu Ala Asp Ile Asn Ile
145                 150                 155                 160

Ala Phe Tyr Gln Arg Asp His Gly Asp Asn Ser Pro Phe Asp Gly Pro
                165                 170                 175
```

119

Asn Gly Ile Leu Ala His Ala Phe Gln Pro Gly Gln Gly Ile Gly Gly
            180   185   190

Asp Ala His Phe Asp Ala Glu Glu Thr Trp Thr Asn Thr Ser Ala Asn
            195   200   205

Tyr Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ser Leu Gly
            210   215   220

Leu Ala His Ser Ser Asp Pro Gly Ala Leu Met Tyr Pro Asn Tyr Ala
225   230   235   240

Phe Arg Glu Thr Ser Asn Tyr Ser Leu Pro Gln Asp Asp Ile Asp Gly
            245   250   255

Ile Gln Ala Ile Tyr Gly Leu Ser Ser Asn Pro Ile Gln Pro Thr Gly
            260   265   270

Pro Ser Thr Pro Lys Pro Cys Asp Pro Ser Leu Thr Phe Asp Ala Ile
            275   280   285

Thr Thr Leu Arg Gly Glu Ile Leu Phe Phe Lys Asp Arg Tyr Phe Trp
            290   295   300

Arg Arg His Pro Gln Leu Gln Arg Val Glu Met Asn Phe Ile Ser Leu
305   310   315   320

Phe Trp Pro Ser Leu Pro Thr Gly Ile Gln Ala Ala Tyr Glu Asp Phe
            325   330   335

Asp Arg Asp Leu Ile Phe Leu Phe Lys Gly Asn Gln Tyr Trp Ala Leu
            340   345   350

Ser Gly Tyr Asp Ile Leu Gln Gly Tyr Pro Lys Asp Ile Ser Asn Tyr
            355   360   365

Gly Phe Pro Ser Ser Val Gln Ala Ile Asp Ala Ala Val Phe Tyr Arg
            370   375   380

Ser Lys Thr Tyr Phe Phe Val Asn Asp Gln Phe Trp Arg Tyr Asp Asn
385   390   395   400

Gln Arg Gln Phe Met Glu Pro Gly Tyr Pro Lys Ser Ile Ser Gly Ala
            405   410   415

Phe Pro Gly Ile Glu Ser Lys Val Asp Ala Val Phe Gln Gln Glu His
            420   425   430

120

```
Phe Phe His Val Phe Ser Gly Pro Arg Tyr Tyr Ala Phe Asp Leu Ile
        435                 440                 445

Ala Gln Arg Val Thr Arg Val Ala Arg Gly Asn Lys Trp Leu Asn Cys
        450                 455                 460

Arg Tyr Gly
465


<210> 177
<211> 1401
<212> PRT
<213> Homo sapiens

<400> 177
Ala Thr Gly Thr Thr Cys Thr Cys Cys Cys Thr Gly Ala Ala Gly Ala
  1               5                  10                  15

Cys Gly Cys Thr Thr Cys Cys Ala Thr Thr Thr Cys Thr Gly Cys Thr
                20                  25                  30

Cys Thr Thr Ala Cys Thr Cys Cys Ala Thr Gly Thr Gly Cys Ala Gly
        35                  40                  45

Ala Thr Thr Thr Cys Cys Ala Ala Gly Gly Cys Cys Thr Thr Thr Cys
        50                  55                  60

Cys Thr Gly Thr Ala Thr Cys Thr Thr Cys Thr Ala Ala Ala Gly Ala
 65               70                  75                  80

Gly Ala Ala Ala Ala Ala Thr Ala Cys Ala Ala Ala Ala Cys Thr
                85                  90                  95

Gly Thr Thr Cys Ala Gly Gly Ala Cys Thr Ala Cys Cys Thr Gly Gly
                100                 105                 110

Ala Ala Ala Ala Gly Thr Thr Cys Thr Ala Cys Cys Ala Ala Thr Thr
        115                 120                 125

Ala Cys Cys Ala Ala Gly Cys Ala Ala Cys Cys Ala Gly Thr Ala Thr
        130                 135                 140

Cys Ala Gly Thr Cys Thr Ala Cys Ala Ala Gly Gly Ala Ala Gly Ala
145                 150                 155                 160

Ala Thr Gly Gly Cys Ala Cys Thr Ala Ala Thr Gly Thr Gly Ala Thr
```
                                121

Cys Gly Thr Thr Gly Ala Ala Ala Ala Gly Cys Thr Thr Ala Ala Ala
        180   185   190

Gly Ala Ala Ala Thr Gly Cys Ala Gly Cys Gly Ala Thr Thr Thr Thr
        195   200   205

Thr Thr Gly Gly Gly Thr Thr Gly Ala Ala Thr Gly Thr Gly Ala Cys
        210   215   220

Gly Gly Gly Gly Ala Ala Gly Cys Cys Ala Ala Ala Thr Gly Ala Gly
225   230   235   240

Gly Ala Ala Ala Cys Thr Cys Thr Gly Gly Ala Cys Ala Thr Gly Ala
            245   250   255

Thr Gly Ala Ala Ala Ala Ala Gly Cys Cys Thr Cys Gly Cys Thr Gly
        260   265   270

Thr Gly Gly Ala Gly Thr Gly Cys Cys Thr Gly Ala Cys Ala Gly Thr
        275   280   285

Gly Gly Thr Gly Gly Thr Thr Thr Thr Ala Thr Gly Thr Thr Ala Ala
        290   295   300

Cys Cys Cys Cys Ala Gly Gly Ala Ala Ala Cys Cys Cys Cys Ala Ala
305   310   315   320

Gly Thr Gly Gly Gly Ala Ala Cys Gly Cys Ala Cys Thr Ala Ala Cys
            325   330   335

Thr Thr Gly Ala Cys Cys Thr Ala Cys Ala Gly Gly Ala Thr Thr Cys
        340   345   350

Gly Ala Ala Ala Cys Thr Ala Thr Ala Cys Cys Cys Cys Ala Cys Ala
        355   360   365

Gly Cys Thr Gly Thr Cys Ala Gly Ala Gly Gly Cys Thr Gly Ala Gly
        370   375   380

Gly Thr Ala Gly Ala Ala Ala Gly Ala Gly Cys Thr Ala Thr Cys Ala
385   390   395   400

Ala Gly Gly Ala Thr Gly Cys Cys Thr Thr Thr Gly Ala Ala Cys Thr
            405   410   415

Cys Thr Gly Gly Ala Gly Thr Gly Thr Thr Gly Cys Ala Thr Cys Ala

122

Cys Cys Thr Cys Thr Cys Ala Thr Cys Thr Thr Cys Ala Cys Cys Ala
        435   440   445

Gly Gly Ala Thr Cys Thr Cys Ala Cys Ala Gly Gly Gly Ala Gly Ala
        450   455   460

Gly Gly Cys Ala Gly Ala Thr Ala Thr Cys Ala Ala Cys Ala Thr Thr
465   470   475   480

Gly Cys Thr Thr Thr Thr Thr Ala Cys Cys Ala Ala Ala Gly Ala Gly
                485   490   495

Ala Thr Cys Ala Cys Gly Gly Thr Gly Ala Cys Ala Ala Thr Thr Cys
        500   505   510

Thr Cys Cys Ala Thr Thr Thr Gly Ala Thr Gly Gly Ala Cys Cys Cys
        515   520   525

Ala Ala Thr Gly Gly Ala Ala Thr Cys Cys Thr Thr Gly Cys Thr Cys
        530   535   540

Ala Thr Gly Cys Cys Thr Thr Thr Cys Ala Gly Cys Cys Ala Gly Gly
545   550   555   560

Cys Cys Ala Ala Gly Gly Thr Ala Thr Thr Gly Gly Ala Gly Gly Ala
                565   570   575

Gly Ala Thr Gly Cys Thr Cys Ala Thr Thr Thr Thr Gly Ala Thr Gly
        580   585   590

Cys Cys Gly Ala Ala Gly Ala Ala Ala Cys Ala Thr Gly Gly Ala Cys
        595   600   605

Cys Ala Ala Cys Ala Cys Cys Thr Cys Cys Gly Cys Ala Ala Ala Thr
        610   615   620

Thr Ala Cys Ala Ala Cys Thr Thr Gly Thr Thr Thr Cys Thr Thr Gly
625   630   635   640

Thr Thr Gly Cys Thr Gly Cys Thr Cys Ala Thr Gly Ala Ala Thr Thr
                645   650   655

Thr Gly Gly Cys Cys Ala Thr Thr Cys Thr Thr Thr Gly Gly Gly Gly
        660   665   670

Cys Thr Cys Gly Cys Thr Cys Ala Cys Thr Cys Cys Thr Cys Thr Gly

123

Ala Cys Cys Cys Thr Gly Gly Thr Gly Cys Cys Thr Thr Gly Ala Thr
    690   695   700

Gly Thr Ala Thr Cys Cys Cys Ala Ala Cys Thr Ala Thr Gly Cys Thr
705   710   715   720

Thr Thr Cys Ala Gly Gly Gly Ala Ala Ala Cys Cys Ala Gly Cys Ala
                725   730   735

Ala Cys Thr Ala Cys Thr Cys Ala Cys Thr Cys Cys Cys Thr Cys Ala
        740   745   750

Ala Gly Ala Thr Gly Ala Cys Ala Thr Cys Gly Ala Thr Gly Gly Cys
        755   760   765

Ala Thr Thr Cys Ala Gly Gly Cys Cys Ala Thr Cys Thr Ala Thr Gly
    770   775   780

Gly Ala Cys Thr Thr Thr Cys Ala Ala Gly Cys Ala Ala Cys Cys Cys
785   790   795   800

Thr Ala Thr Cys Cys Ala Ala Cys Cys Thr Ala Cys Thr Gly Gly Ala
                805   810   815

Cys Cys Ala Ala Gly Cys Ala Cys Ala Cys Cys Ala Ala Ala Cys
        820   825   830

Cys Cys Thr Gly Thr Gly Ala Cys Cys Cys Ala Gly Thr Thr Thr
        835   840   845

Gly Ala Cys Ala Thr Thr Thr Gly Ala Thr Gly Cys Thr Ala Thr Cys
    850   855   860

Ala Cys Cys Ala Cys Ala Cys Thr Cys Cys Gly Thr Gly Gly Ala Gly
865   870   875   880

Ala Ala Ala Thr Ala Cys Thr Thr Thr Thr Cys Thr Thr Thr Ala Ala
                885   890   895

Ala Gly Ala Cys Ala Gly Gly Thr Ala Cys Thr Thr Cys Thr Gly Gly
        900   905   910

Ala Gly Ala Ala Gly Gly Cys Ala Thr Cys Cys Thr Cys Ala Gly Cys
        915   920   925

Thr Ala Cys Ala Ala Ala Gly Ala Gly Thr Cys Gly Ala Ala Ala Thr

124

Gly Ala Ala Thr Thr Thr Thr Ala Thr Thr Thr Cys Thr Cys Thr Ala
945   950   955   960

Thr Thr Cys Thr Gly Gly Cys Cys Ala Thr Cys Cys Cys Thr Thr Cys
                    965   970   975

Cys Ala Ala Cys Thr Gly Gly Thr Ala Thr Ala Cys Ala Gly Gly Cys
                980   985   990

Thr Gly Cys Thr Thr Ala Thr Gly Ala Ala Gly Ala Thr Thr Thr Thr
            995   1000   1005

Gly Ala Cys Ala Gly Ala Gly Ala Cys Cys Thr Cys Ala Thr Thr Thr
    1010   1015   1020

Thr Cys Cys Thr Ala Thr Thr Thr Ala Ala Ala Gly Gly Cys Ala Ala
1025   1030   1035   1040

Cys Cys Ala Ala Thr Ala Cys Thr Gly Gly Gly Cys Thr Cys Thr Gly
            1045   1050   1055

Ala Gly Thr Gly Gly Cys Thr Ala Thr Gly Ala Thr Ala Thr Thr Cys
        1060   1065   1070

Thr Gly Cys Ala Ala Gly Gly Thr Thr Ala Thr Cys Cys Cys Ala Ala
        1075   1080   1085

Gly Gly Ala Thr Ala Thr Ala Thr Cys Ala Ala Ala Cys Thr Ala Thr
    1090   1095   1100

Gly Gly Cys Thr Thr Cys Cys Cys Cys Ala Gly Cys Ala Gly Cys Gly
1105   1110   1115   1120

Thr Cys Cys Ala Ala Gly Cys Ala Ala Thr Thr Gly Ala Cys Gly Cys
            1125   1130   1135

Ala Gly Cys Thr Gly Thr Thr Thr Thr Cys Thr Ala Cys Ala Gly Ala
            1140   1145   1150

Ala Gly Thr Ala Ala Ala Ala Cys Ala Thr Ala Cys Thr Thr Cys Thr
    1155   1160   1165

Thr Thr Gly Thr Ala Ala Ala Thr Gly Ala Cys Cys Ala Ala Thr Thr
    1170   1175   1180

Cys Thr Gly Gly Ala Gly Ala Thr Ala Thr Gly Ala Thr Ala Ala Cys

125

Cys Ala Ala Ala Gly Ala Cys Ala Ala Thr Thr Cys Ala Thr Gly Gly
                1205   1210   1215

Ala Gly Cys Cys Ala Gly Gly Thr Thr Ala Thr Cys Cys Cys Ala Ala
            1220   1225   1230

Ala Ala Gly Cys Ala Thr Ala Thr Cys Ala Gly Gly Thr Gly Cys Cys
            1235   1240   1245

Thr Thr Thr Cys Cys Ala Gly Gly Ala Ala Thr Ala Gly Ala Gly Ala
        1250   1255   1260

Gly Thr Ala Ala Ala Gly Thr Thr Gly Ala Thr Gly Cys Ala Gly Thr
1265   1270   1275   1280

Thr Thr Thr Cys Cys Ala Gly Cys Ala Ala Gly Ala Ala Cys Ala Thr
            1285   1290   1295

Thr Thr Cys Thr Thr Cys Cys Ala Thr Gly Thr Cys Thr Thr Cys Ala
            1300   1305   1310

Gly Thr Gly Gly Ala Cys Cys Ala Ala Gly Ala Thr Ala Thr Thr Ala
            1315   1320   1325

Cys Gly Cys Ala Thr Thr Thr Gly Ala Thr Cys Thr Thr Ala Thr Thr
        1330   1335   1340

Gly Cys Thr Cys Ala Gly Ala Gly Ala Gly Thr Thr Ala Cys Cys Ala
1345   1350   1355   1360

Gly Ala Gly Thr Thr Gly Cys Ala Ala Gly Ala Gly Gly Cys Ala Ala
            1365   1370   1375

Thr Ala Ala Ala Thr Gly Gly Cys Thr Thr Ala Ala Cys Thr Gly Thr
            1380   1385   1390

Ala Gly Ala Thr Ala Thr Gly Gly Cys
        1395   1400

<210> 178
<211> 471
<212> PRT
<213> Homo sapiens

<400> 178

```
Phe Pro Leu Val Arg Met Thr Glu Asn Glu Glu Asn Met Gln Leu Ala
 1               5                  10                  15

Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Asn His
            20                  25                  30

Leu Val Gln Ser Lys Asn Arg Ser Leu Ile Asp Asp Lys Ile Arg Glu
            35                  40                  45

Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser Asn
        50                  55                  60

Thr Leu Glu Ile Met Lys Thr Pro Arg Cys Gly Val Pro Asp Val Gly
65                  70                  75                  80

Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Asn Leu Thr Tyr
                85                  90                  95

Arg Ile Ile Asn Tyr Thr Pro Asp Met Ala Arg Ala Ala Val Asp Glu
            100                 105                 110

Ala Ile Gln Glu Gly Leu Glu Val Trp Ser Lys Val Thr Pro Leu Lys
            115                 120                 125

Phe Thr Lys Ile Ser Lys Gly Ile Ala Asp Ile Met Ile Ala Phe Arg
        130                 135                 140

Thr Arg Val His Gly Arg Cys Pro Arg Tyr Phe Asp Gly Pro Leu Gly
145                 150                 155                 160

Val Leu Gly His Ala Phe Pro Pro Gly Pro Gly Leu Gly Gly Asp Thr
                165                 170                 175

His Phe Asp Glu Asp Glu Asn Trp Thr Lys Asp Gly Ala Gly Phe Asn
            180                 185                 190

Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ala Leu Gly Leu Ser
        195                 200                 205

His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Val Ser Leu
    210                 215                 220

Asp Pro Arg Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asn Gly Ile Gln
225                 230                 235                 240

Ser Ile Tyr Gly Gly Leu Pro Lys Val Pro Ala Lys Pro Lys Glu Pro
                245                 250                 255
```

```
Thr Ile Pro His Ala Cys Asp Pro Asp Leu Thr Phe Asp Ala Ile Thr
        260                 265                 270

Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp Arg
        275                 280                 285

Ile Tyr Tyr Asp Ile Thr Asp Val Glu Phe Glu Leu Ile Ala Ser Phe
        290                 295                 300

Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Asn Pro Arg
305                 310                 315                 320

Asp Lys Ile Leu Val Phe Lys Asp Glu Asn Phe Trp Met Ile Arg Gly
                325                 330                 335

Tyr Ala Val Leu Pro Asp Tyr Pro Lys Ser Ile His Thr Leu Gly Phe
                340                 345                 350

Pro Gly Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp Lys Thr Thr
        355                 360                 365

Arg Lys Thr Tyr Phe Phe Val Gly Ile Trp Cys Trp Arg Phe Asp Glu
        370                 375                 380

Met Thr Gln Thr Met Asp Lys Gly Phe Pro Gln Arg Val Val Lys His
385                 390                 395                 400

Phe Pro Gly Ile Ser Ile Arg Val Asp Ala Ala Phe Gln Tyr Lys Gly
                405                 410                 415

Phe Phe Phe Phe Ser Arg Gly Ser Lys Gln Phe Glu Tyr Asn Ile Lys
        420                 425                 430

Thr Lys Asn Ile Thr Arg Ile Met Arg Thr Asn Thr Trp Phe Gln Cys
        435                 440                 445

Lys Glu Pro Lys Asn Ser Ser Phe Gly Phe Asp Ile Asn Lys Glu Lys
    450                 455                 460

Ala His Ser Gly Gly Ile Lys
465                 470


<210> 179
<211> 18
<212> PRT
<213> Homo sapiens
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128

<400> 179
Ile Leu Tyr His Lys Ser Leu Ser Leu Phe Ile Phe Gly Ile Val His
 1   5   10   15

Leu Leu

<210> 180
<211> 7
<212> PRT
<213> Homo sapiens

<400> 180
Lys Asn Thr Ser Ile Tyr Gln
 1   5

<210> 181
<211> 2467
<212> DNA
<213> Mus sp.

<400> 181
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caggcatatc tcaaccagtt ctactctctt gaaatagaag ggagtcattt tgtccaaagc 180
aagaacagga gtctctttga tggaaaactt cgggaaatgc aggcattttt cggattgaca 240
gtgactggaa aactggattc agacacactt gcgatcatga aagtgcccag gtgtggggta 300
ccagatgtgg ggcaatatgg ctacacactc cctgggtgga aaaatacag cctتacatac 360
agaataatga actatactcc tgatatgaca ccagctgatg tggatgaggc tattcagaaa 420
gctctacaag tttggagcaa ggtcactcca ctgacgttta ccaggatatc caggggggtt 480
gcagatataa tgatagcatt caggacagga gtccatggct ggtgtcctcg tcactttgat 540
ggtcctctgg gagtccttgg ccatgccttt cctcctggtc tgggtctagg tggtgacact 600
cactttgacg aagatgaaac atggatagcc aaggatgggg aagggttcaa cttgtttctt 660
gtggctgctc atgaatttgg tcactctctg gggctgtccc actccaatga tcaaacagcc 720
ttgatgttcc ccaattacat ctccctggat cctagcaaat acccactttc tcaggatgat 780
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attcacatgt atgccccaca tatgtgaaca tgtaggcaca catgcatgca taccacaaac 1200
cacaaactta agactgaaac atgctgatgg acacaggtac caggacatca ttgatgaaat 1260
attttgtgtt taatgcaggc acttatggag ggtctactct gatattgctg gtgctgagtt 1320
tgagtttatt gattccttct ggccatctct gccagctgat cttcaagctg cctatgaaag 1380
ccccagagat gagctccttg tttttaaaga tgagaatttc tgggtcatca ggggatattc 1440

129

```
tgtcttgccc ggttacccca aatccatcca cacactcgga tttccaagac gtgtgaagaa 1500
aattgatgca gccgtctgtg atcatgatac aagaaaaacc ttcttttttg ttggcatctg 1560
gtgctggagg tatgatgaga tggcacaagc aatggacaga ggattcccac agaggataat 1620
aaagtgcttc ccaggaattc gcctccgtgt ggatgctgtc ttccaacata atggattcct 1680
ctatttcttc catgggtcga ggcaatttga atatgacatg aaggcgaaaa atatcaccca 1740
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cagtgtcaaa ggaaaagcaa attcaattgg cacagtgata ttacatcata aaaggttaag 1860
cttgctcact ttcagtattg ttcatgtgct gacaaaaaca tacaattaac aataaattcc 1920
acaaataaac caaaacaaat cttttaacct gaactctgcc tcaggaagac tcaagagtgg 1980
gagagatgac ccagtggtta agtgcactgg ctgctctttc aaaggaccca ggtttgattc 2040
tcagtaccca catggcagtc cacagctctc tgtaactcca gacccaggga aatctgatgc 2100
cctctctggc ctctgagggc actgcacaag catggtgcat agacatatac atgcaagcaa 2160
acggctatat atttaaaata aaatgaaaaa gtaaaataat tgagcccaat tctttagcat 2220
caagttctta ctcctactat atatcagctg ggtaaccaat aaccagttaa agtatctgat 2280
tcttctaaca gtgaagtttt aaatatgaca aaaatctctc acttattttg agtctaatta 2340
atgatttgca aacttggaaa attaaagcat gtcttaaaaa taaacattaa agacaattct 2400
taatccaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2460
aaaaaaa                                                          2467
```

<210> 182
<211> 1554
<212> DNA
<213> Mus sp.

<400> 182
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ctttccgctg catttcctcc agacaggaag gacaaaaatg aggagaacaa ccaactggcc 120
caggcatatc tcaaccagtt ctactctctt gaaatagaag ggagtcattt tgtccaaagc 180
aagaacagga gtctctttga tggaaaactt cgggaaatgc aggcattttt cggattgaca 240
gtgactggaa aactggattc agacacactt gcgatcatga aagtgcccag gtgtgggggta 300
ccagatgtgg ggcaatatgg ctacacactc cctgggtgga gaaaatacag ccttacatac 360
agaataatga actatactcc tgatatgaca ccagctgatg tggatgaggc tattcagaaa 420
gctctacaag tttggagcaa ggtcactcca ctgacgttta ccaggatatc caagggggtt 480
gcagatataa tgatagcatt caggacagga gtccatggct ggtgtcctcg tcactttgat 540
ggtcctctgg gagtccttgg ccatgccttt cctcctggtc tgggtctagg tggtgacact 600
cactttgacg aagatgaaac atggatagcc aaggatgggg aagggttcaa cttgtttctt 660
gtggctgctc atgaatttgg tcactctctg gggctgtccc actccaatga tcaaacagcc 720
ttgatgttcc ccaattacat ctccctggat cctagcaaat acccactttc tcaggatgat 780
attgatggga tccagtccat ctatggaagt ccacctaagg taaccaccaa gccaagtgga 840
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agggaagtta tgttctttaa aggcaggcac ttatggaggg tctactctga tattgctggt 960
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tatgaaagcc ccagagatga gctccttgtt tttaaagatg agaatttctg ggtcatcagg 1080
ggatattctg tcttgcccgg ttaccccaaa tccatccaca cactcggatt ccaagacgt 1140
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ggcatctggt gctggaggta tgatgagatg gcacaagcaa tggacagagg attcccacag 1260
aggataataa agtgcttccc aggaattcgc ctccgtgtgg atgctgtctt ccaacataat 1320
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130

```
ggattcctct atttcttcca tgggtcgagg caatttgaat atgacatgaa ggcgaaaaat 1380
atcacccaag tgatcaaaac caattcttgg ttcctgtgta acgaaccatt aaacgcatca 1440
ttcaatgtca gtgtcaaagg aaaagcaaat tcaattggca cagtgatatt acatcataaa 1500
aggttaagct tgctcacttt cagtattgtt catgtgctga caaaaacata caat       1554
```

<210> 183
<211> 511
<212> PRT
<213> Mus sp.

<400> 183

```
Met Lys Cys Leu Leu Ser Leu Met Val Asn Phe Ile Thr Leu Ser Ala
 1               5                  10                  15

Ala Phe Pro Pro Asp Arg Lys Asp Lys Asn Glu Glu Asn Asn Gln Leu
             20                  25                  30

Ala Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Ser
             35                  40                  45

His Phe Val Gln Ser Lys Asn Arg Ser Leu Phe Asp Gly Lys Leu Arg
         50                  55                  60

Glu Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser
 65                  70                  75                  80

Asp Thr Leu Ala Ile Met Lys Val Pro Arg Cys Gly Val Pro Asp Val
                 85                  90                  95

Gly Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Ser Leu Thr
             100                 105                 110

Tyr Arg Ile Met Asn Tyr Thr Pro Asp Met Thr Pro Ala Asp Val Asp
         115                 120                 125

Glu Ala Ile Gln Lys Ala Leu Gln Val Trp Ser Lys Val Thr Pro Leu
         130                 135                 140

Thr Phe Thr Arg Ile Ser Lys Gly Val Ala Asp Ile Met Ile Ala Phe
145                 150                 155                 160

Arg Thr Gly Val His Gly Trp Cys Pro Arg His Phe Asp Gly Pro Leu
                 165                 170                 175

Gly Val Leu Gly His Ala Phe Pro Pro Gly Leu Gly Leu Gly Gly Asp
             180                 185                 190
```

131

```
Thr His Phe Asp Glu Asp Glu Thr Trp Ile Ala Lys Asp Gly Glu Gly
    195                 200                 205


Phe Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ser Leu Gly
    210                 215                 220


Leu Ser His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Ile
225                 230                 235                 240


Ser Leu Asp Pro Ser Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asp Gly
                245                 250                 255


Ile Gln Ser Ile Tyr Gly Ser Pro Pro Lys Val Thr Thr Lys Pro Ser
                260                 265                 270


Gly Asn Ser Glu Pro His Ala Cys Asp Pro Thr Leu Thr Phe Asp Ala
                275                 280                 285


Ile Thr Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu
                290                 295                 300


Trp Arg Val Tyr Ser Asp Ile Ala Gly Ala Glu Phe Glu Phe Ile Asp
305                 310                 315                 320


Ser Phe Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Ser
                325                 330                 335


Pro Arg Asp Glu Leu Leu Val Phe Lys Asp Glu Asn Phe Trp Val Ile
                340                 345                 350


Arg Gly Tyr Ser Val Leu Pro Gly Tyr Pro Lys Ser Ile His Thr Leu
                355                 360                 365


Gly Phe Pro Arg Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp His
    370                 375                 380


Asp Thr Arg Lys Thr Phe Phe Phe Val Gly Ile Trp Cys Trp Arg Tyr
385                 390                 395                 400


Asp Glu Met Ala Gln Ala Met Asp Arg Gly Phe Pro Gln Arg Ile Ile
                405                 410                 415


Lys Cys Phe Pro Gly Ile Arg Leu Arg Val Asp Ala Val Phe Gln His
                420                 425                 430


Asn Gly Phe Leu Tyr Phe Phe His Gly Ser Arg Gln Phe Glu Tyr Asp
                435                 440                 445
```

```
Met Lys Ala Lys Asn Ile Thr Gln Val Ile Lys Thr Asn Ser Trp Phe
    450             455             460

Leu Cys Asn Glu Pro Leu Asn Ala Ser Phe Asn Val Ser Val Lys Gly
465             470             475             480

Lys Ala Asn Ser Ile Gly Thr Val Ile Leu His His Lys Arg Leu Ser
                485             490             495

Leu Leu Thr Phe Ser Ile Val His Val Leu Thr Lys Thr Tyr Asn
            500             505             510
```

```
<210> 184
<211> 17
<212> PRT
<213> Mus sp.
```

```
<400> 184
Met Lys Cys Leu Leu Ser Leu Met Val Asn Phe Ile Thr Leu Ser Ala
  1             5              10              15

Ala
```

```
<210> 185
<211> 494
<212> PRT
<213> Mus sp.
```

```
<400> 185
Phe Pro Pro Asp Arg Lys Asp Lys Asn Glu Glu Asn Asn Gln Leu Ala
  1             5              10              15

Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Ser His
            20              25              30

Phe Val Gln Ser Lys Asn Arg Ser Leu Phe Asp Gly Lys Leu Arg Glu
            35              40              45

Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser Asp
    50              55              60

Thr Leu Ala Ile Met Lys Val Pro Arg Cys Gly Val Pro Asp Val Gly
 65              70              75              80

Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Ser Leu Thr Tyr
```

Arg Ile Met Asn Tyr Thr Pro Asp Met Thr Pro Ala Asp Val Asp Glu
            100   105   110

Ala Ile Gln Lys Ala Leu Gln Val Trp Ser Lys Val Thr Pro Leu Thr
            115   120   125

Phe Thr Arg Ile Ser Lys Gly Val Ala Asp Ile Met Ile Ala Phe Arg
    130   135   140

Thr Gly Val His Gly Trp Cys Pro Arg His Phe Asp Gly Pro Leu Gly
145   150   155   160

Val Leu Gly His Ala Phe Pro Pro Gly Leu Gly Leu Gly Gly Asp Thr
                165   170   175

His Phe Asp Glu Asp Glu Thr Trp Ile Ala Lys Asp Gly Glu Gly Phe
            180   185   190

Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ser Leu Gly Leu
            195   200   205

Ser His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Ile Ser
    210   215   220

Leu Asp Pro Ser Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asp Gly Ile
225   230   235   240

Gln Ser Ile Tyr Gly Ser Pro Pro Lys Val Thr Thr Lys Pro Ser Gly
                245   250   255

Asn Ser Glu Pro His Ala Cys Asp Pro Thr Leu Thr Phe Asp Ala Ile
            260   265   270

Thr Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp
    275   280   285

Arg Val Tyr Ser Asp Ile Ala Gly Ala Glu Phe Glu Phe Ile Asp Ser
    290   295   300

Phe Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Ser Pro
305   310   315   320

Arg Asp Glu Leu Leu Val Phe Lys Asp Glu Asn Phe Trp Val Ile Arg
            325   330   335

Gly Tyr Ser Val Leu Pro Gly Tyr Pro Lys Ser Ile His Thr Leu Gly

                                    134

```
              340                    345                    350

   Phe Pro Arg Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp His Asp
           355                 360                 365

   Thr Arg Lys Thr Phe Phe Phe Val Gly Ile Trp Cys Trp Arg Tyr Asp
           370                 375                 380

   Glu Met Ala Gln Ala Met Asp Arg Gly Phe Pro Gln Arg Ile Ile Lys
   385                 390                 395                 400

   Cys Phe Pro Gly Ile Arg Leu Arg Val Asp Ala Val Phe Gln His Asn
                   405                 410                 415

   Gly Phe Leu Tyr Phe Phe His Gly Ser Arg Gln Phe Glu Tyr Asp Met
               420                 425                 430

   Lys Ala Lys Asn Ile Thr Gln Val Ile Lys Thr Asn Ser Trp Phe Leu
           435                 440                 445

   Cys Asn Glu Pro Leu Asn Ala Ser Phe Asn Val Ser Val Lys Gly Lys
           450                 455                 460

   Ala Asn Ser Ile Gly Thr Val Ile Leu His His Lys Arg Leu Ser Leu
   465                 470                 475                 480

   Leu Thr Phe Ser Ile Val His Val Leu Thr Lys Thr Tyr Asn
                   485                 490
```

<210> 186
<400> 186
000

<210> 187
<400> 187
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<210> 188
<400> 188
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<210> 189
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<210> 190
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<210> 191
<211> 2628
<212> DNA
<213> Homo sapiens

<400> 191
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tggggcccag acaacccggc catgcttccc cgggtgccaa tgcgaggtgg agaccttcgg 180
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gccggtgccc atccctctgg acacagccca cttggacctg tcctccaacc ggctggagat 300
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gcttgacctc agccacaatg cctgacagc cctgccagcc gagagcttca ccagctcacc 480
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gacgcacagt cagggccggg cactacacgt ggacctctcc cacaacctca ttcaccgcct 600
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gcccctgcct gaggcgctgc tcctccacct cccggcactg cagagcgtca gcgtgggcca 1020
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cttgtgacaa atggtgtggc ccagggccac ataacagact gctgtcctgg gctgcctcag 1200
gtcccgagta acttatgttc aatgtgccaa caccaggggg gagcccgcag gcctatgtgg 1260
cagcgtcacc acaggagttg tgggcctagg agaggctttg gacctgggag ccacacctag 1320
gagcaaagtc tcaccccttt gtctacgttg cttccccaaa ccatgagcag agggacttcg 1380
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gcagggcaga gttcaggtcc actgggctga gtgtcccctt gggcccatgg cccagtcact 1560
caggggcgag tttctttct aacatagccc tttctttgcc atgaggccat gaggcccgct 1620
tcatcctttt ctatttccct agaaccttaa tggtagaagg aattgcaaag aatcaagtcc 1680
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gttcctgcgg gcagtggcat gactggagca cagcctcctg cctcccagcc cggaccaat 1800
gcactttctt gtctcctcta ataagccca ccctcccgc ctgggctccc cttgctgccc 1860
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gggactctgg gcctctgacc agctgtgcgg catgggctaa gtcactctgc ccttcggagc 1980
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cccccagcat ccagactgga aacctaccca ttttcccctg agcatcctct agatgctgcc 2100

136

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ccaaggagtt gctgcagttc tggagcctca tctggctggg atctccaagg ggcctcctgg 2160
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aaggagacaa ggtctgcccg acccatgtct atgctctacc cccagggcag catctcagct 2280
tccgaaccct gggctgtttc cttagtcttc attttataaa agttgttgcc tttttaacgg 2340
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gggtgttggg ggaagctggg catcagtggc cacatgggca tcaggggctg gccccacaga 2520
gaccccacag ggcagtgagc tctgtcttcc cccacctgcc tagcccatca tctatctaac 2580
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<210> 192
<211> 1059
<212> DNA
<213> Homo sapiens

<400> 192
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cgggtggatt gtagcggcct gggcccccac atcatgccgg tgcccatccc tctggacaca 180
gcccacttgg acctgtcctc caaccggctg agatggtga atgagtcggt gttggcgggg 240
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aaccagctcc gggaggtctc agtgtctgcc ttcacgacgc acagtcaggg ccgggcacta 480
cacgtggacc tctcccacaa cctcattcac cgcctcgtgc cccaccccac gagggccggc 540
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ggtccgggtg ccttcgcggg gctgggaggc cttacacacc tgtctctggc cagcctgcag 720
aggctccctg agctggcgcc cagtggcttc cgtgagctac cgggcctgca ggtcctggac 780
ctgtcgggca accccaagct taactgggca ggagctgagg tgttttcagg cctgagctcc 840
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cgggagggca cctacccccg gaggcctggc tccagcccca aggtggccct gcactgcgta 1020
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<210> 193
<211> 353
<212> PRT
<213> Homo sapiens

<400> 193
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Met Pro Trp Pro Leu Leu Leu Leu Ala Val Ser Gly Ala Gln Thr
 1               5                  10                  15


Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr Phe Gly
            20                  25                  30
```

137

```
Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser Gly Leu Gly
        35                  40                  45

Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp
        50                  55                  60

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly
65                  70                  75                  80

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu
            85                  90                  95

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser
            100                 105                 110

Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe
        115                 120                 125

Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg
    130                 135                 140

Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu
145                 150                 155                 160

His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro
            165                 170                 175

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala
            180                 185                 190

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
            195                 200                 205

Tyr Leu Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala
    210                 215                 220

Phe Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
225                 230                 235                 240

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly Leu
            245                 250                 255

Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly Ala
            260                 265                 270

Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser Gly
    275                 280                 285
```

138

Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro Ala
    290   295   300

Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu Val
305   310   315   320

Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly Ser Ser Pro Lys Val Ala
                325   330   335

Leu His Cys Val Asp Thr Arg Glu Ser Ala Ala Arg Gly Pro Thr Ile
            340   345   350

Leu

<210> 194
<211> 16
<212> PRT
<213> Homo sapiens

<400> 194
Met Pro Trp Pro Leu Leu Leu Leu Ala Val Ser Gly Ala Gln Thr
    1   5   10   15

<210> 195
<211> 337
<212> PRT
<213> Homo sapiens

<400> 195
Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr Phe Gly
    1   5   10   15

Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser Gly Leu Gly
                20   25   30

Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp
            35   40   45

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly
        50   55   60

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu
    65   70   75   80

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser
                85   90   95

Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe
            100   105   110

Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg
            115   120   125

Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu
        130   135   140

His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro
145   150   155   160

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala
                165   170   175

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
            180   185   190

Tyr Leu Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala
            195   200   205

Phe Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
        210   215   220

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly Leu
225   230   235   240

Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly Ala
                245   250   255

Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser Gly
            260   265   270

Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro Ala
            275   280   285

Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu Val
        290   295   300

Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly Ser Ser Pro Lys Val Ala
305   310   315   320

Leu His Cys Val Asp Thr Arg Glu Ser Ala Ala Arg Gly Pro Thr Ile
                325   330   335

140

Leu

<210> 196
<211> 200
<212> PRT
<213> Homo sapiens

<400> 196
Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr Phe Gly
 1   5   10   15

Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser Gly Leu Gly
             20   25   30

Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp
             35   40   45

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly
         50   55   60

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu
 65   70   75   80

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser
                 85   90   95

Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe
             100   105   110

Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg
             115   120   125

Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu
         130   135   140

His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro
145   150   155   160

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala
             165   170   175

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
             180   185   190

Tyr Leu Ser Leu Asp Gly Asn Pro
         195   200

141

<210> 197
<211> 23
<212> PRT
<213> Homo sapiens

<400> 197
Leu Ala Val Ile Gly Pro Gly Ala Phe Ala Gly Leu Gly Gly Leu Thr
 1   5   10   15

His Leu Ser Leu Ala Ser Leu
            20

<210> 198
<211> 114
<212> PRT
<213> Homo sapiens

<400> 198
Gln Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly
 1   5   10   15

Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly
                20   25   30

Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser
            35   40   45

Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro
        50   55   60

Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu
 65   70   75   80

Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly Ser Ser Pro Lys Val
                85   90   95

Ala Leu His Cys Val Asp Thr Arg Glu Ser Ala Ala Arg Gly Pro Thr
            100   105   110

Ile Leu

<210> 199
<400> 199

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<210> 200
<400> 200
000

<210> 201
<211> 3770
<212> DNA
<213> Homo sapiens

<400> 201
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acaggggcg gtggtgatgg cgcagtttga cactgaatac cagcgcctag aggcctccta 180
tagtgattca ccccccagggg aggaggacct gttggtgcac gtcgccgagg ggagcaagtc 240
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gaagaatggc ttcacatgta tgctcatcgg ggagatcttt gagctcatgc agttcctctt 360
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tccgtattgc acgtggcaag aagtgcaggc ccggatcgtg cagacgcaga aggagcacca 720
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143

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agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa gggcggccgc         3770


<210> 202
<211> 2337
<212> DNA
<213> Homo sapiens

<400> 202
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agtcttcacc ctactgaacc cgtcaaggtc actctgccag acgccttttt gcctgctcaa 180
gtctgtagtg ccaggattca ggaaaatggc tcccttatca ccatcctggt cattgctggt 240
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144

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<210> 203
<211> 778
<212> PRT
<213> Homo sapiens

<400> 203

Met	Leu	Ile	Gly	Glu	Ile	Phe	Glu	Leu	Met	Gln	Phe	Leu	Phe	Val	Val
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Ala	Phe	Thr	Thr	Phe	Leu	Val	Ser	Cys	Val	Asp	Tyr	Asp	Ile	Leu	Phe
			20					25					30		

Ala	Asn	Lys	Met	Val	Asn	His	Ser	Leu	His	Pro	Thr	Glu	Pro	Val	Lys
		35				40					45				

Val	Thr	Leu	Pro	Asp	Ala	Phe	Leu	Pro	Ala	Gln	Val	Cys	Ser	Ala	Arg
	50					55					60				

145

```
Ile Gln Glu Asn Gly Ser Leu Ile Thr Ile Leu Val Ile Ala Gly Val
 65               70              75              80

Phe Trp Ile His Arg Leu Ile Lys Phe Ile Tyr Asn Ile Cys Cys Tyr
             85              90              95

Trp Glu Ile His Ser Phe Tyr Leu His Ala Leu Arg Ile Pro Met Ser
         100             105             110

Ala Leu Pro Tyr Cys Thr Trp Gln Glu Val Gln Ala Arg Ile Val Gln
         115             120             125

Thr Gln Lys Glu His Gln Ile Cys Ile His Lys Arg Glu Leu Thr Glu
     130             135             140

Leu Asp Ile Tyr His Arg Ile Leu Arg Phe Gln Asn Tyr Met Val Ala
145             150             155             160

Leu Val Asn Lys Ser Leu Leu Pro Leu Arg Phe Arg Leu Pro Gly Leu
             165             170             175

Gly Glu Ala Val Phe Phe Thr Arg Gly Leu Lys Tyr Asn Phe Glu Leu
         180             185             190

Ile Leu Phe Trp Gly Pro Gly Ser Leu Phe Leu Asn Glu Trp Ser Leu
         195             200             205

Lys Ala Glu Tyr Lys Arg Gly Gly Gln Arg Leu Glu Leu Ala Gln Arg
     210             215             220

Leu Ser Asn Arg Ile Leu Trp Ile Gly Ile Ala Asn Phe Leu Leu Cys
225             230             235             240

Pro Leu Ile Leu Ile Trp Gln Ile Leu Tyr Ala Phe Phe Ser Tyr Ala
             245             250             255

Glu Val Leu Lys Arg Glu Pro Gly Ala Leu Gly Ala Arg Cys Trp Ser
         260             265             270

Leu Tyr Gly Arg Cys Tyr Leu Arg His Phe Asn Glu Leu Glu His Glu
         275             280             285

Leu Gln Ser Arg Leu Asn Arg Gly Tyr Lys Pro Ala Ser Lys Tyr Met
     290             295             300

Asn Cys Phe Leu Ser Pro Leu Leu Thr Leu Leu Ala Lys Asn Gly Ala
305             310             315             320


                              146
```

```
Phe Phe Ala Gly Ser Ile Leu Ala Val Leu Ile Ala Leu Thr Ile Tyr
                325                 330                 335

Asp Glu Asp Val Leu Ala Val Glu His Val Leu Thr Thr Val Thr Leu
                340                 345                 350

Leu Gly Val Thr Val Thr Val Cys Arg Ser Phe Ile Pro Asp Gln His
                355                 360                 365

Met Val Phe Cys Pro Glu Gln Leu Leu Arg Val Ile Leu Ala His Ile
        370                 375                 380

His Tyr Met Pro Asp His Trp Gln Gly Asn Ala His Arg Ser Gln Thr
385                 390                 395                 400

Arg Asp Glu Phe Ala Gln Leu Phe Gln Tyr Lys Ala Val Phe Ile Leu
                405                 410                 415

Glu Glu Leu Leu Ser Pro Ile Val Thr Pro Leu Ile Leu Ile Phe Cys
                420                 425                 430

Leu Arg Pro Arg Ala Leu Glu Ile Ile Asp Phe Phe Arg Asn Phe Thr
                435                 440                 445

Val Glu Val Val Gly Val Gly Asp Thr Cys Ser Phe Ala Gln Met Asp
        450                 455                 460

Val Arg Gln His Gly His Pro Gln Trp Leu Ser Ala Gly Gln Thr Glu
465                 470                 475                 480

Ala Ser Val Tyr Gln Gln Ala Glu Asp Gly Lys Thr Glu Leu Ser Leu
                485                 490                 495

Met His Phe Ala Ile Thr Asn Pro Gly Trp Gln Pro Pro Arg Glu Ser
                500                 505                 510

Thr Ala Phe Leu Gly Phe Leu Lys Glu Gln Val Gln Arg Asp Gly Ala
                515                 520                 525

Ala Ala Ser Leu Ala Gln Gly Gly Leu Leu Pro Glu Asn Ala Leu Phe
        530                 535                 540

Thr Ser Ile Gln Ser Leu Gln Ser Glu Ser Glu Pro Leu Ser Leu Ile
545                 550                 555                 560

Ala Asn Val Val Ala Gly Ser Ser Cys Arg Gly Pro Pro Leu Pro Arg
                565                 570                 575


                                147
```

```
Asp Leu Gln Gly Ser Arg His Arg Ala Glu Val Ala Ser Ala Leu Arg
          580                 585                 590

Ser Phe Ser Pro Leu Gln Pro Gly Gln Ala Pro Thr Gly Arg Ala His
          595                 600                 605

Ser Thr Met Thr Gly Ser Gly Val Asp Ala Arg Thr Ala Ser Ser Gly
    610                 615                 620

Ser Ser Val Trp Glu Gly Gln Leu Gln Ser Leu Val Leu Ser Glu Tyr
625                 630                 635                 640

Ala Ser Thr Glu Met Ser Leu His Ala Leu Tyr Met His Gln Leu His
              645                 650                 655

Lys Gln Gln Ala Gln Ala Glu Pro Glu Arg His Val Trp His Arg Arg
          660                 665                 670

Glu Ser Asp Glu Ser Gly Glu Ser Ala Pro Asp Glu Gly Gly Glu Gly
          675                 680                 685

Ala Arg Ala Pro Gln Ser Ile Pro Arg Ser Ala Ser Tyr Pro Cys Ala
    690                 695                 700

Ala Pro Arg Pro Gly Ala Pro Glu Thr Thr Ala Leu His Gly Gly Phe
705                 710                 715                 720

Gln Arg Arg Tyr Gly Gly Ile Thr Asp Pro Gly Thr Val Pro Arg Val
          725                 730                 735

Pro Ser His Phe Ser Arg Leu Pro Leu Gly Gly Trp Ala Glu Asp Gly
          740                 745                 750

Gln Ser Ala Ser Arg His Pro Glu Pro Val Pro Glu Glu Gly Ser Glu
    755                 760                 765

Asp Glu Leu Pro Pro Gln Val His Lys Val
    770                 775


<210> 204
<211> 25
<212> PRT
<213> Homo sapiens

<400> 204
Met Leu Ile Gly Glu Ile Phe Glu Leu Met Gln Phe Leu Phe Val Val
  1               5                 10                15


                              148
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Ala Phe Thr Thr Phe Leu Val Ser Cys
            20   25

<210> 205
<211> 753
<212> PRT
<213> Homo sapiens

<400> 205
Val Asp Tyr Asp Ile Leu Phe Ala Asn Lys Met Val Asn His Ser Leu
 1   5   10   15

His Pro Thr Glu Pro Val Lys Val Thr Leu Pro Asp Ala Phe Leu Pro
            20   25   30

Ala Gln Val Cys Ser Ala Arg Ile Gln Glu Asn Gly Ser Leu Ile Thr
            35   40   45

Ile Leu Val Ile Ala Gly Val Phe Trp Ile His Arg Leu Ile Lys Phe
    50   55   60

Ile Tyr Asn Ile Cys Cys Tyr Trp Glu Ile His Ser Phe Tyr Leu His
 65   70   75   80

Ala Leu Arg Ile Pro Met Ser Ala Leu Pro Tyr Cys Thr Trp Gln Glu
                85   90   95

Val Gln Ala Arg Ile Val Gln Thr Gln Lys Glu His Gln Ile Cys Ile
            100   105   110

His Lys Arg Glu Leu Thr Glu Leu Asp Ile Tyr His Arg Ile Leu Arg
            115   120   125

Phe Gln Asn Tyr Met Val Ala Leu Val Asn Lys Ser Leu Leu Pro Leu
    130   135   140

Arg Phe Arg Leu Pro Gly Leu Gly Glu Ala Val Phe Phe Thr Arg Gly
145   150   155   160

Leu Lys Tyr Asn Phe Glu Leu Ile Leu Phe Trp Gly Pro Gly Ser Leu
                165   170   175

Phe Leu Asn Glu Trp Ser Leu Lys Ala Glu Tyr Lys Arg Gly Gly Gln
            180   185   190

Arg Leu Glu Leu Ala Gln Arg Leu Ser Asn Arg Ile Leu Trp Ile Gly

149

Ile Ala Asn Phe Leu Leu Cys Pro Leu Ile Leu Ile Trp Gln Ile Leu
    210   215   220

Tyr Ala Phe Phe Ser Tyr Ala Glu Val Leu Lys Arg Glu Pro Gly Ala
225   230   235   240

Leu Gly Ala Arg Cys Trp Ser Leu Tyr Gly Arg Cys Tyr Leu Arg His
                245   250   255

Phe Asn Glu Leu Glu His Glu Leu Gln Ser Arg Leu Asn Arg Gly Tyr
                260   265   270

Lys Pro Ala Ser Lys Tyr Met Asn Cys Phe Leu Ser Pro Leu Leu Thr
                275   280   285

Leu Leu Ala Lys Asn Gly Ala Phe Phe Ala Gly Ser Ile Leu Ala Val
                290   295   300

Leu Ile Ala Leu Thr Ile Tyr Asp Glu Asp Val Leu Ala Val Glu His
305   310   315   320

Val Leu Thr Thr Val Thr Leu Leu Gly Val Thr Val Thr Val Cys Arg
                325   330   335

Ser Phe Ile Pro Asp Gln His Met Val Phe Cys Pro Glu Gln Leu Leu
                340   345   350

Arg Val Ile Leu Ala His Ile His Tyr Met Pro Asp His Trp Gln Gly
                355   360   365

Asn Ala His Arg Ser Gln Thr Arg Asp Glu Phe Ala Gln Leu Phe Gln
                370   375   380

Tyr Lys Ala Val Phe Ile Leu Glu Glu Leu Leu Ser Pro Ile Val Thr
385   390   395   400

Pro Leu Ile Leu Ile Phe Cys Leu Arg Pro Arg Ala Leu Glu Ile Ile
                405   410   415

Asp Phe Phe Arg Asn Phe Thr Val Glu Val Val Gly Val Gly Asp Thr
                420   425   430

Cys Ser Phe Ala Gln Met Asp Val Arg Gln His Gly His Pro Gln Trp
                435   440   445

Leu Ser Ala Gly Gln Thr Glu Ala Ser Val Tyr Gln Gln Ala Glu Asp

Gly Lys Thr Glu Leu Ser Leu Met His Phe Ala Ile Thr Asn Pro Gly
465   470   475   480

Trp Gln Pro Pro Arg Glu Ser Thr Ala Phe Leu Gly Phe Leu Lys Glu
                485   490   495

Gln Val Gln Arg Asp Gly Ala Ala Ala Ser Leu Ala Gln Gly Gly Leu
            500   505   510

Leu Pro Glu Asn Ala Leu Phe Thr Ser Ile Gln Ser Leu Gln Ser Glu
            515   520   525

Ser Glu Pro Leu Ser Leu Ile Ala Asn Val Val Ala Gly Ser Ser Cys
        530   535   540

Arg Gly Pro Pro Leu Pro Arg Asp Leu Gln Gly Ser Arg His Arg Ala
545   550   555   560

Glu Val Ala Ser Ala Leu Arg Ser Phe Ser Pro Leu Gln Pro Gly Gln
            565   570   575

Ala Pro Thr Gly Arg Ala His Ser Thr Met Thr Gly Ser Gly Val Asp
            580   585   590

Ala Arg Thr Ala Ser Ser Gly Ser Ser Val Trp Glu Gly Gln Leu Gln
        595   600   605

Ser Leu Val Leu Ser Glu Tyr Ala Ser Thr Glu Met Ser Leu His Ala
        610   615   620

Leu Tyr Met His Gln Leu His Lys Gln Gln Ala Gln Ala Glu Pro Glu
625   630   635   640

Arg His Val Trp His Arg Arg Glu Ser Asp Glu Ser Gly Glu Ser Ala
                645   650   655

Pro Asp Glu Gly Gly Glu Gly Ala Arg Ala Pro Gln Ser Ile Pro Arg
            660   665   670

Ser Ala Ser Tyr Pro Cys Ala Ala Pro Arg Pro Gly Ala Pro Glu Thr
        675   680   685

Thr Ala Leu His Gly Gly Phe Gln Arg Arg Tyr Gly Gly Ile Thr Asp
    690   695   700

Pro Gly Thr Val Pro Arg Val Pro Ser His Phe Ser Arg Leu Pro Leu

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           705                     710                     715                     720

Gly Gly Trp Ala Glu Asp Gly Gln Ser Ala Ser Arg His Pro Glu Pro
                    725                     730                     735

Val Pro Glu Glu Gly Ser Glu Asp Glu Leu Pro Pro Gln Val His Lys
                740                     745                     750

Val


<210> 206
<211> 45
<212> PRT
<213> Homo sapiens

<400> 206
Val Asp Tyr Asp Ile Leu Phe Ala Asn Lys Met Val Asn His Ser Leu
  1               5                  10                  15

His Pro Thr Glu Pro Val Lys Val Thr Leu Pro Asp Ala Phe Leu Pro
              20                  25                  30

Ala Gln Val Cys Ser Ala Arg Ile Gln Glu Asn Gly Ser
          35                  40                  45


<210> 207
<211> 17
<212> PRT
<213> Homo sapiens

<400> 207
Leu Ile Thr Ile Leu Val Ile Ala Gly Val Phe Trp Ile His Arg Leu
  1               5                  10                  15

Ile


<210> 208
<211> 141
<212> PRT
<213> Homo sapiens

<400> 208
Lys Phe Ile Tyr Asn Ile Cys Cys Tyr Trp Glu Ile His Ser Phe Tyr
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152

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        1                5                      10                       15

    Leu His Ala Leu Arg Ile Pro Met Ser Ala Leu Pro Tyr Cys Thr Trp
                    20              25              30

    Gln Glu Val Gln Ala Arg Ile Val Gln Thr Gln Lys Glu His Gln Ile
                35              40              45

    Cys Ile His Lys Arg Glu Leu Thr Glu Leu Asp Ile Tyr His Arg Ile
            50              55              60

    Leu Arg Phe Gln Asn Tyr Met Val Ala Leu Val Asn Lys Ser Leu Leu
        65              70              75              80

    Pro Leu Arg Phe Arg Leu Pro Gly Leu Gly Glu Ala Val Phe Phe Thr
                    85              90              95

    Arg Gly Leu Lys Tyr Asn Phe Glu Leu Ile Leu Phe Trp Gly Pro Gly
                    100             105             110

    Ser Leu Phe Leu Asn Glu Trp Ser Leu Lys Ala Glu Tyr Lys Arg Gly
                115             120             125

    Gly Gln Arg Leu Glu Leu Ala Gln Arg Leu Ser Asn Arg
            130             135             140


<210> 209
<211> 25
<212> PRT
<213> Homo sapiens

<400> 209
Ile Leu Trp Ile Gly Ile Ala Asn Phe Leu Leu Cys Pro Leu Ile Leu
    1                5                      10                       15

Ile Trp Gln Ile Leu Tyr Ala Phe Phe
                20                  25


<210> 210
<211> 66
<212> PRT
<213> Homo sapiens

<400> 210
Ser Tyr Ala Glu Val Leu Lys Arg Glu Pro Gly Ala Leu Gly Ala Arg
    1                5                      10                       15
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Cys Trp Ser Leu Tyr Gly Arg Cys Tyr Leu Arg His Phe Asn Glu Leu
          20   25   30

Glu His Glu Leu Gln Ser Arg Leu Asn Arg Gly Tyr Lys Pro Ala Ser
          35   40   45

Lys Tyr Met Asn Cys Phe Leu Ser Pro Leu Leu Thr Leu Leu Ala Lys
     50   55   60

Asn Gly
 65

<210> 211
<211> 17
<212> PRT
<213> Homo sapiens

<400> 211
Ala Phe Phe Ala Gly Ser Ile Leu Ala Val Leu Ile Ala Leu Thr Ile
 1   5   10   15

Tyr

<210> 212
<211> 9
<212> PRT
<213> Homo sapiens

<400> 212
Asp Glu Asp Val Leu Ala Val Glu His
 1   5

<210> 213
<211> 19
<212> PRT
<213> Homo sapiens

<400> 213
Val Leu Thr Thr Val Thr Leu Leu Gly Val Thr Val Thr Val Cys Arg
 1   5   10   15

Ser Phe Ile

<210> 214
<211> 414
<212> PRT
<213> Homo sapiens

<400> 214
Pro Asp Gln His Met Val Phe Cys Pro Glu Gln Leu Leu Arg Val Ile
 1   5   10   15

Leu Ala His Ile His Tyr Met Pro Asp His Trp Gln Gly Asn Ala His
                20   25   30

Arg Ser Gln Thr Arg Asp Glu Phe Ala Gln Leu Phe Gln Tyr Lys Ala
            35   40   45

Val Phe Ile Leu Glu Glu Leu Leu Ser Pro Ile Val Thr Pro Leu Ile
        50   55   60

Leu Ile Phe Cys Leu Arg Pro Arg Ala Leu Glu Ile Ile Asp Phe Phe
65   70   75   80

Arg Asn Phe Thr Val Glu Val Val Gly Val Gly Asp Thr Cys Ser Phe
                85   90   95

Ala Gln Met Asp Val Arg Gln His Gly His Pro Gln Trp Leu Ser Ala
            100   105   110

Gly Gln Thr Glu Ala Ser Val Tyr Gln Gln Ala Glu Asp Gly Lys Thr
            115   120   125

Glu Leu Ser Leu Met His Phe Ala Ile Thr Asn Pro Gly Trp Gln Pro
        130   135   140

Pro Arg Glu Ser Thr Ala Phe Leu Gly Phe Leu Lys Glu Gln Val Gln
145   150   155   160

Arg Asp Gly Ala Ala Ala Ser Leu Ala Gln Gly Gly Leu Leu Pro Glu
                165   170   175

Asn Ala Leu Phe Thr Ser Ile Gln Ser Leu Gln Ser Glu Ser Glu Pro
                180   185   190

Leu Ser Leu Ile Ala Asn Val Val Ala Gly Ser Ser Cys Arg Gly Pro
        195   200   205

Pro Leu Pro Arg Asp Leu Gln Gly Ser Arg His Arg Ala Glu Val Ala

155

Ser Ala Leu Arg Ser Phe Ser Pro Leu Gln Pro Gly Gln Ala Pro Thr
225   230   235   240

Gly Arg Ala His Ser Thr Met Thr Gly Ser Gly Val Asp Ala Arg Thr
                    245   250   255

Ala Ser Ser Gly Ser Ser Val Trp Glu Gly Gln Leu Gln Ser Leu Val
                    260   265   270

Leu Ser Glu Tyr Ala Ser Thr Glu Met Ser Leu His Ala Leu Tyr Met
                    275   280   285

His Gln Leu His Lys Gln Gln Ala Gln Ala Glu Pro Glu Arg His Val
        290   295   300

Trp His Arg Arg Glu Ser Asp Glu Ser Gly Glu Ser Ala Pro Asp Glu
305   310   315   320

Gly Gly Glu Gly Ala Arg Ala Pro Gln Ser Ile Pro Arg Ser Ala Ser
                    325   330   335

Tyr Pro Cys Ala Ala Pro Arg Pro Gly Ala Pro Glu Thr Thr Ala Leu
                    340   345   350

His Gly Gly Phe Gln Arg Arg Tyr Gly Gly Ile Thr Asp Pro Gly Thr
                    355   360   365

Val Pro Arg Val Pro Ser His Phe Ser Arg Leu Pro Leu Gly Gly Trp
        370   375   380

Ala Glu Asp Gly Gln Ser Ala Ser Arg His Pro Glu Pro Val Pro Glu
385   390   395   400

Glu Gly Ser Glu Asp Glu Leu Pro Pro Gln Val His Lys Val
                    405   410

<210> 215
<211> 2448
<212> DNA
<213> Homo sapiens

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gaaaaccttg acctcttctt ctctcgagtt tataatctgc accagaagaa tggcttcaca 180

156

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<210> 216
<211> 816
<212> PRT
<213> Homo sapiens

<400> 216
Met Ala Gln Phe Asp Thr Glu Tyr Gln Arg Leu Glu Ala Ser Tyr Ser
  1   5   10   15

157

Asp Ser Pro Pro Gly Glu Glu Asp Leu Leu Val His Val Ala Glu Gly
        20   25   30

Ser Lys Ser Pro Trp His His Ile Glu Asn Leu Asp Leu Phe Phe Ser
        35   40   45

Arg Val Tyr Asn Leu His Gln Lys Asn Gly Phe Thr Cys Met Leu Ile
    50   55   60

Gly Glu Ile Phe Glu Leu Met Gln Phe Leu Phe Val Val Ala Phe Thr
65   70   75   80

Thr Phe Leu Val Ser Cys Val Asp Tyr Asp Ile Leu Phe Ala Asn Lys
                85   90   95

Met Val Asn His Ser Leu His Pro Thr Glu Pro Val Lys Val Thr Leu
            100   105   110

Pro Asp Ala Phe Leu Pro Ala Gln Val Cys Ser Ala Arg Ile Gln Glu
        115   120   125

Asn Gly Ser Leu Ile Thr Ile Leu Val Ile Ala Gly Val Phe Trp Ile
    130   135   140

His Arg Leu Ile Lys Phe Ile Tyr Asn Ile Cys Cys Tyr Trp Glu Ile
145   150   155   160

His Ser Phe Tyr Leu His Ala Leu Arg Ile Pro Met Ser Ala Leu Pro
                165   170   175

Tyr Cys Thr Trp Gln Glu Val Gln Ala Arg Ile Val Gln Thr Gln Lys
                180   185   190

Glu His Gln Ile Cys Ile His Lys Arg Glu Leu Thr Glu Leu Asp Ile
            195   200   205

Tyr His Arg Ile Leu Arg Phe Gln Asn Tyr Met Val Ala Leu Val Asn
        210   215   220

Lys Ser Leu Leu Pro Leu Arg Phe Arg Leu Pro Gly Leu Gly Glu Ala
225   230   235   240

Val Phe Phe Thr Arg Gly Leu Lys Tyr Asn Phe Glu Leu Ile Leu Phe
                245   250   255

Trp Gly Pro Gly Ser Leu Phe Leu Asn Glu Trp Ser Leu Lys Ala Glu
            260   265   270

158

Tyr Lys Arg Gly Gly Gln Arg Leu Glu Leu Ala Gln Arg Leu Ser Asn
    275   280   285

Arg Ile Leu Trp Ile Gly Ile Ala Asn Phe Leu Leu Cys Pro Leu Ile
    290   295   300

Leu Ile Trp Gln Ile Leu Tyr Ala Phe Phe Ser Tyr Ala Glu Val Leu
305   310   315   320

Lys Arg Glu Pro Gly Ala Leu Gly Ala Arg Cys Trp Ser Leu Tyr Gly
                325   330   335

Arg Cys Tyr Leu Arg His Phe Asn Glu Leu Glu His Glu Leu Gln Ser
            340   345   350

Arg Leu Asn Arg Gly Tyr Lys Pro Ala Ser Lys Tyr Met Asn Cys Phe
            355   360   365

Leu Ser Pro Leu Leu Thr Leu Leu Ala Lys Asn Gly Ala Phe Phe Ala
    370   375   380

Gly Ser Ile Leu Ala Val Leu Ile Ala Leu Thr Ile Tyr Asp Glu Asp
385   390   395   400

Val Leu Ala Val Glu His Val Leu Thr Thr Val Thr Leu Leu Gly Val
                405   410   415

Thr Val Thr Val Cys Arg Ser Phe Ile Pro Asp Gln His Met Val Phe
            420   425   430

Cys Pro Glu Gln Leu Leu Arg Val Ile Leu Ala His Ile His Tyr Met
            435   440   445

Pro Asp His Trp Gln Gly Asn Ala His Arg Ser Gln Thr Arg Asp Glu
    450   455   460

Phe Ala Gln Leu Phe Gln Tyr Lys Ala Val Phe Ile Leu Glu Glu Leu
465   470   475   480

Leu Ser Pro Ile Val Thr Pro Leu Ile Leu Ile Phe Cys Leu Arg Pro
                485   490   495

Arg Ala Leu Glu Ile Ile Asp Phe Phe Arg Asn Phe Thr Val Glu Val
            500   505   510

Val Gly Val Gly Asp Thr Cys Ser Phe Ala Gln Met Asp Val Arg Gln
            515   520   525

159

His Gly His Pro Gln Trp Leu Ser Ala Gly Gln Thr Glu Ala Ser Val
    530   535   540

Tyr Gln Gln Ala Glu Asp Gly Lys Thr Glu Leu Ser Leu Met His Phe
545   550   555   560

Ala Ile Thr Asn Pro Gly Trp Gln Pro Pro Arg Glu Ser Thr Ala Phe
                565   570   575

Leu Gly Phe Leu Lys Glu Gln Val Gln Arg Asp Gly Ala Ala Ala Ser
                580   585   590

Leu Ala Gln Gly Gly Leu Leu Pro Glu Asn Ala Leu Phe Thr Ser Ile
                595   600   605

Gln Ser Leu Gln Ser Glu Ser Glu Pro Leu Ser Leu Ile Ala Asn Val
    610   615   620

Val Ala Gly Ser Ser Cys Arg Gly Pro Pro Leu Pro Arg Asp Leu Gln
625   630   635   640

Gly Ser Arg Arg Ala His Ser Thr Met Thr Gly Ser Gly Val Asp Ala
                645   650   655

Arg Thr Ala Ser Ser Gly Ser Ser Val Trp Glu Gly Gln Leu Gln Ser
                660   665   670

Leu Val Leu Ser Glu Tyr Ala Ser Thr Glu Met Ser Leu His Ala Leu
                675   680   685

Tyr Met His Gln Leu His Lys Gln Gln Ala Gln Ala Glu Pro Glu Arg
    690   695   700

His Val Trp His Arg Arg Glu Ser Asp Glu Ser Gly Glu Ser Ala Pro
705   710   715   720

Asp Glu Gly Gly Glu Gly Ala Arg Ala Pro Gln Ser Ile Pro Arg Ser
                725   730   735

Ala Ser Tyr Pro Cys Ala Ala Pro Arg Pro Gly Ala Pro Glu Thr Thr
                740   745   750

Ala Leu His Gly Gly Phe Gln Arg Arg Tyr Gly Gly Ile Thr Asp Pro
                755   760   765

Gly Thr Val Pro Arg Val Pro Ser His Phe Ser Arg Leu Pro Leu Gly
    770   775   780

160

Gly Trp Ala Glu Asp Gly Gln Ser Ala Ser Arg His Pro Glu Pro Val
785   790   795   800

Pro Glu Glu Gly Ser Glu Asp Glu Leu Pro Pro Gln Val His Lys Val
                805   810   815

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<400> 217
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<210> 221
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<212> DNA
<213> Homo sapiens

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gacaggagaa cactcgaaat caagcgcttt acagattatt ttattttgta tagagaacac 180
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161

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atgaacatgt cagtgttgac tttacaagaa tatgaattcg aaaagcagtt caacgagaat 60
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162

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gaagccatcc aatggatgca ggaaaactgg aagaaatctt tcctgttttc tgctctgtat 120
gctgccttta tattcggtgg tcggcaccta atgaataaac gagcaaagtt tgaactgagg 180
aagccattag tgctctggtc tctgaccctt gcagtcttca gtatattcgg tgctcttcga 240
actggtgctt atatggtgta cattttgatg accaaaggcc tgaagcagtc agtttgtgac 300
cagggttttt acaatggacc tgtcagcaaa ttctgggctt atgcatttgt gctaagcaaa 360
gcacccgaac taggagatac aatattcatt attctgagga agcagaagct gatcttcctg 420
cactggtatc accacatcac tgtgctcctg tactcttggt actcctacaa agacatggtt 480
gccggggggag gttggttcat gactatgaac tatggcgtgc acgccgtgat gtactcttac 540
tatgccttgc gggcggcagg tttccgagtc tcccggaagt ttgccatgtt catcaccttg 600
tcccagatca ctcagatgct gatgggctgt gtggttaact acctggtctt ctgctggatg 660
cagcatgacc agtgtcactc tcactttcag aacatcttct ggtcctcact catgtacctc 720
agctaccttg tgctcttctg ccatttcttc tttgaggcct acatcggcaa aatgaggaaa 780
acaacgaaag ctgaa                                                   795


<210> 223
<211> 265
<212> PRT
<213> Homo sapiens

<400> 223
Met Asn Met Ser Val Leu Thr Leu Gln Glu Tyr Glu Phe Glu Lys Gln
  1               5                  10                  15


Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
             20                  25                  30


Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
         35                  40                  45


His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
     50                  55                  60


Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
 65                  70                  75                  80


Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
                 85                  90                  95


Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
             100                 105                 110


Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
         115                 120                 125


Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
     130                 135                 140
```

163

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145   150   155   160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
                165   170   175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
                180   185   190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
                195   200   205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
        210   215   220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225   230   235   240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
                245   250   255

Lys Met Arg Lys Thr Thr Lys Ala Glu
                260   265

<210> 224
<211> 46
<212> PRT
<213> Homo sapiens

<400> 224
Met Asn Met Ser Val Leu Thr Leu Gln Glu Tyr Glu Phe Glu Lys Gln
  1   5   10   15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
                20   25   30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly
          35   40   45

<210> 225
<211> 219
<212> PRT
<213> Homo sapiens

<400> 225
Gly Arg His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro

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      1                    5                         10                            15

     Leu Val Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala
              20                  25                  30

     Leu Arg Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu
              35                  40                  45

     Lys Gln Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys
          50                  55                  60

     Phe Trp Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp
      65                  70                  75                      80

     Thr Ile Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp
                  85                  90                  95

     Tyr His His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp
              100                 105                 110

     Met Val Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His
              115                 120                 125

     Ala Val Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val
          130                 135                 140

     Ser Arg Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met
     145                 150                 155                     160

     Leu Met Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His
                  165                 170                 175

     Asp Gln Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met
              180                 185                 190

     Tyr Leu Ser Tyr Leu Val Leu Phe Cys His Phe Phe Glu Ala Tyr   .
              195                 200                 205

     Ile Gly Lys Met Arg Lys Thr Thr Lys Ala Glu
          210                 215


<210> 226
<211> 16
<212> PRT
<213> Homo sapiens

<400> 226
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165

Gly Arg His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro
 1   5   10   15

<210> 227
<211> 17
<212> PRT
<213> Homo sapiens

<400> 227
Leu Val Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala
 1   5   10   15

Leu

<210> 228
<211> 57
<212> PRT
<213> Homo sapiens

<400> 228
Arg Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys
 1   5   10   15

Gln Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe
            20   25   30

Trp Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr
        35   40   45

Ile Phe Ile Ile Leu Arg Lys Gln Lys
    50   55

<210> 229
<211> 17
<212> PRT
<213> Homo sapiens

<400> 229
Leu Ile Phe Leu His Trp Tyr His His Ile Thr Val Leu Leu Tyr Ser
 1   5   10   15

Trp

```
<210> 230
<211> 11
<212> PRT
<213> Homo sapiens

<400> 230
Tyr Ser Tyr Lys Asp Met Val Ala Gly Gly Gly
 1               5                   10


<210> 231
<211> 19
<212> PRT
<213> Homo sapiens

<400> 231
Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val Met Tyr Ser Tyr
 1               5                   10                  15

Tyr Ala Leu


<210> 232
<211> 10
<212> PRT
<213> Homo sapiens

<400> 232
Arg Ala Ala Gly Phe Arg Val Ser Arg Lys
 1               5                   10


<210> 233
<211> 24
<212> PRT
<213> Homo sapiens

<400> 233
Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met Gly
 1               5                   10                  15

Cys Val Val Asn Tyr Leu Val Phe
            20


<210> 234
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167

<211> 14
<212> PRT
<213> Homo sapiens

<400> 234
Cys Trp Met Gln His Asp Gln Cys His Ser His Phe Gln Asn
 1   5   10

<210> 235
<211> 20
<212> PRT
<213> Homo sapiens

<400> 235
Ile Phe Trp Ser Ser Leu Met Tyr Leu Ser Tyr Leu Val Leu Phe Cys
 1   5   10   15

His Phe Phe Phe
            20

<210> 236
<211> 14
<212> PRT
<213> Homo sapiens

<400> 236
Glu Ala Tyr Ile Gly Lys Met Arg Lys Thr Thr Lys Ala Glu
 1   5   10

<210> 237
<400> 237
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<210> 238
<211> 813
<212> DNA
<213> Homo sapiens

<400> 238
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ttcgagacgt ttcaggactt aaggcccttt ttggaggagt actgggtaag ctcatttctc 120
atagtggtcg tctatctgtt gctcatcgtt gttggccaga cctacatgag aacgcggaag 180
agcttcagct tgcagaggcc tctcatcctc tggtccttct tcctggcaat attcagtatc 240
ctgggtactc tgaggatgtg gaagtttatg gcaacagtga tgtttacagt gggcctcaag 300

168

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caaaccgtgt gctttgccat ctacacggat gacgccgtag tcagattctg gtcctttctc 360
tttcttctca gcaaggttgt tgaactggga gacacggcct tcatcatcct gcgtaagcgt 420
ccactcatct ttgtccactg gtaccaccac agcacagtgc tactgttcac aagctttgga 480
tacaagaaca aagtgccttc gggtggctgg ttcatgacca tgaactttgg cgtccattct 540
gtcatgtaca cttactacac tatgaaggct gccaaactga agcatcctaa tcttctcccc 600
atggtcatca ccagcctgca gattctgcag atggttctgg caccatctt tggcatactg 660
aattacatct ggaggcagga gaaaggatgc cacacaacaa cggaacactt cttctggtct 720
tttatgctat atgggaccta tttcatccta ttcgctcact tcttccaccg agcctacctc 780
aggcccaagg gcaaagttgc atccaagagc caa 813
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<210> 239
<211> 265
<212> PRT
<213> Mus sp.

<400> 239

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Met Asn Met Ser Val Leu Thr Leu Gln Glu Tyr Glu Phe Glu Lys Gln
 1               5                  10                  15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
            20                  25                  30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
        35                  40                  45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
    50                  55                  60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
 65                 70                  75                  80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
                85                  90                  95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
            100                 105                 110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
            115                 120                 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
    130                 135                 140

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145                 150                 155                 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
```

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
          180   185   190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
          195   200   205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
     210   215   220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225   230   235   240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
               245   250   255

Lys Met Arg Lys Thr Thr Lys Ala Glu
          260   265

<210> 240
<400> 240
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<210> 241
<211> 2032
<212> DNA
<213> Mus sp.

<400> 241
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cttatgcatt tgtgctcagc aaagcacccg aactaggtga cacgatattc atcattctga 120
ggaaacagaa actgatcttc ctgcactggt accaccacat cactgtgctc ctgtactcct 180
ggtactccta caaagacatg gtcgctgggg gtggttggtt catgactatg aactatggcg 240
tgcatgccgt catgtactct tactacgcct tgcgggctgc gggtttccga gtctcccgga 300
agtttgccat gttcatcacc ttgtcccaga tcactcagat gctgatgggc tgtgtcatta 360
actacctggt cttcaactgg atgcagcatg acaacgacca gtgctactcc cactttcaga 420
acatcttctg gtcctcgctc atgtacctca gctaccttgt gctcttctgc catttcttct 480
ttgaggccta catcggcaaa gtgaagaaag ccacgaaggc tgagtagtgt cagggctgag 540
gaggaagtca tagctcaggg tcatcacgaa aaataatcga caaaagaaaa atggcacaag 600
gaatcccata tggtgcagct aaaacaaaac aaaacatccg tatgagcagg cacgaggccc 660
aaggcagctt gggactgaag attaggttgt aagtttatga tcctttctgg gtgaggactc 720
gctgagtgca actcttatct caaagcacgg ctgctgaggg gaccccttcc ctctggcctg 780
tcaactctag aacacactag atgcaaaggc agccacgggc aaagagattg ggcagagatt 840
agtggacggc cagcaaaaca ctgcaggaag caggtggggg gaggaatcta ctcagccttt 900
ttgttttgtt ttgttttgtt ttgttttcct ctaaggataa aggagtttcc ccttttcaaa 960

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cgatgtgagc acacacacac acacacacac acacacacac acacacacac acacgcaatc 1020
ttttcaacac gaaaccagag ctaaaagaaa agataaacat gggagagaca gggtttctat 1080
ctgggacagc aatgcttttg caaaaggcta ggcctttttaa agaaaggtga gcttgtaact 1140
ccttgataaa agatgtctta attattttta ctgcaactga aagtaaagag gtagagcctt 1200
tccccttctg cacagcctca gggcttgtat gttctctaca accaaacaca ggacagtact 1260
tcccccatga tactttatta ctgggagaaa gaaaccccctg tagttgaaac accacactga 1320
caactgttat ttctgctctc cgacgagaat tcaagcatcc gttgttcagt tgccccaaac 1380
tttaggacgg aggagtaaat gcagaactga agggaagaa gctcagctgg ctggcttgaa 1440
aatggagtct tgtaccatgt gtaacaaatg ccagcccatc gtccctggag ctgaacaggg 1500
aggaagggct atgggcagag actagagccg gattcatcca atgtgcagac agcgtgttcg 1560
cctccctccc tgttcgacct cacacataat cctggctttc taaatgaggc cctgtgacac 1620
actctgtgct ttctatattt ttgtgacttt caaacacaga tctgcagggc tctgcctgat 1680
ttggggtaaa cactgtgttt ctgcagcctc tgcatttgct cccttcagca gtgcagaggc 1740
ttgagaagtg ccctctgctg gcttagtgag aagcttcaac aaacacttca cagtaggttg 1800
aaataactga ccactaaggg cctgcggaga ttaaaccctta agttctaagt gctgtcaaac 1860
acctgacata tatttgacca aatcagaaga gagagagaac ctctatgctt caagtaagcg 1920
tcataaattt tttaagtgac tttcacttga gaactcagaa agtcaatgta ttaagagcca 1980
tattctgaaa gaaagaaaga gaaagaaaga aagaaagaaa aaaaaaaaa aa        2032
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<210> 242
<211> 522
<212> DNA
<213> Mus sp.

<400> 242
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ctgaagcagt cagtttgtga ccagagtttt tacaatggac ctgtcagcaa attctgggct 60
tatgcatttg tgctcagcaa agcacccgaa ctaggtgaca cgatattcat cattctgagg 120
aaacagaaac tgatcttcct gcactggtac caccacatca ctgtgctcct gtactcctgg 180
tactcctaca aagacatggt cgctgggggt ggttggttca tgactatgaa ctatggcgtg 240
catgccgtca tgtactctta ctacgccttg cgggctgcgg gtttccgagt ctcccggaag 300
tttgccatgt tcatcacctt gtcccagatc actcagatgc tgatgggctg tgtcattaac 360
tacctggtct tcaactggat gcagcatgac aacgaccagt gctactccca ctttcagaac 420
atcttctggt cctcgctcat gtacctcagc taccttgtgc tcttctgcca tttcttcttt 480
gaggcctaca tcggcaaagt gaagaaagcc acgaaggctg ag                 522
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<210> 243
<211> 174
<212> PRT
<213> Mus sp.

<400> 243
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Leu Lys Gln Ser Val Cys Asp Gln Ser Phe Tyr Asn Gly Pro Val Ser
 1               5                  10                  15

Lys Phe Trp Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly
            20                  25                  30
```

```
Asp Thr Ile Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His
        35                  40                  45

Trp Tyr His His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys
    50                  55                  60

Asp Met Val Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val
65                  70                  75                  80

His Ala Val Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg
                85                  90                  95

Val Ser Arg Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln
            100                 105                 110

Met Leu Met Gly Cys Val Ile Asn Tyr Leu Val Phe Asn Trp Met Gln
            115                 120                 125

His Asp Asn Asp Gln Cys Tyr Ser His Phe Gln Asn Ile Phe Trp Ser
    130                 135                 140

Ser Leu Met Tyr Leu Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe
145                 150                 155                 160

Glu Ala Tyr Ile Gly Lys Val Lys Lys Ala Thr Lys Ala Glu
                165                 170


<210> 244
<211> 49
<212> PRT
<213> Mus sp.

<400> 244
Leu Lys Gln Ser Val Cys Asp Gln Ser Phe Tyr Asn Gly Pro Val Ser
 1               5                   10                  15

Lys Phe Trp Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly
            20                  25                  30

Asp Thr Ile Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His
        35                  40                  45

Trp
```

<210> 245
<211> 17
<212> PRT
<213> Mus sp.

<400> 245
Tyr His His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp
1   5   10   15

Met

<210> 246
<211> 11
<212> PRT
<213> Mus sp.

<400> 246
Val Ala Gly Gly Gly Trp Phe Met Thr Met Asn
1   5   10

<210> 247
<211> 19
<212> PRT
<213> Mus sp.

<400> 247
Tyr Gly Val His Ala Val Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala
1   5   10   15

Gly Phe Arg

<210> 248
<211> 10
<212> PRT
<213> Mus sp.

<400> 248
Val Ser Arg Lys Phe Ala Met Phe Ile Thr
1   5   10

<210> 249
<211> 24

<212> PRT
<213> Mus sp.

<400> 249
Leu Ser Gln Ile Thr Gln Met Leu Met Gly Cys Val Ile Asn Tyr Leu
1   5   10   15

Val Phe Asn Trp Met Gln His Asp
            20

<210> 250
<211> 16
<212> PRT
<213> Mus sp.

<400> 250
Asn Asp Gln Cys Tyr Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu
1   5   10   15

<210> 251
<211> 974
<212> DNA
<213> Rattus sp.

<400> 251
ctaggtgata cgatattcat cattctgagg aagcagaagc tgatcttcct gcactggtac 60
caccacatca ctgtgctcct gtactcttgg tactcctaca agacatggt agctggggt 120
ggttggttca tgactatgaa ctatggcgta cacgccgtca tgtactctta ctacgccttg 180
cgggctgcgg gtttccgggt ctcccggaag tttgccatgt tcatcacgtt gtcccagatc 240
actcagatgc tgatgggctg tgtcattaac tacctggtct tcaactggat gcagcatgac 300
aatgaccagt gctactccca ctttcagaac atcttctggt cctcactcat gtacctcagc 360
taccttctgc tcttctgcca tttcttcttt gaggcctaca tcggcaaagt gaagaaagcg 420
acgaaggccg agtagtgtca gagctgagga ggaagacata gctcagggtc atcacgaaaa 480
ataatagaca aaaagaaaat ggcacaagga atcacatatg gtgcagctaa aacaaaacaa 540
aacattatga gcagacgcta agcccaaggc agcttgggag tgaagattag gttgtaagtt 600
tatgatcctt tttgggtgag gactcactga gaacactgct gctgagggac ccccttccct 660
cttacctgtc aactctagaa cacactagaa gccaaggcag ccatgggcaa ggagattagt 720
ggacagcaag caaaacactg caggaagagg ggggagatct attcagagtt ttttgttttg 780
ttttgttttg ttttctcta aggataaagg agtttcccct tttcaaactg tgtgagcaca 840
cccacgcgca tgcagacaca cccacctaca cactatctgc agatgaccag tgtcctatgc 900
tgtttttaca aataaacttg agacaagaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa 960
aaaaaaaaaa aaaa   974

<210> 252
<211> 432

<212> DNA
<213> Rattus sp.

<400> 252
ctaggtgata cgatattcat cattctgagg aagcagaagc tgatcttcct gcactggtac 60
caccacatca ctgtgctcct gtactcttgg tactcctaca agacatggt agctgggggt 120
ggttggttca tgactatgaa ctatggcgta cacgccgtca tgtactctta ctacgccttg 180
cgggctgcgg gtttccgggt ctcccggaag tttgccatgt tcatcacgtt gtcccagatc 240
actcagatgc tgatgggctg tgtcattaac tacctggtct tcaactggat gcagcatgac 300
aatgaccagt gctactccca ctttcagaac atcttctggt cctcactcat gtacctcagc 360
taccttctgc tcttctgcca tttcttcttt gaggcctaca tcggcaaagt gaagaaagcg 420
acgaaggccg ag 432

<210> 253
<211> 144
<212> PRT
<213> Rattus sp.

<400> 253
Leu Gly Asp Thr Ile Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe
 1   5   10   15

Leu His Trp Tyr His His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser
            20   25   30

Tyr Lys Asp Met Val Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr
         35   40   45

Gly Val His Ala Val Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly
      50   55   60

Phe Arg Val Ser Arg Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile
65   70   75   80

Thr Gln Met Leu Met Gly Cys Val Ile Asn Tyr Leu Val Phe Asn Trp
                85   90   95

Met Gln His Asp Asn Asp Gln Cys Tyr Ser His Phe Gln Asn Ile Phe
            100   105   110

Trp Ser Ser Leu Met Tyr Leu Ser Tyr Leu Leu Leu Phe Cys His Phe
            115   120   125

Phe Phe Glu Ala Tyr Ile Gly Lys Val Lys Lys Ala Thr Lys Ala Glu
      130   135   140

175

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<210> 254
<400> 254
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<210> 255
<400> 255
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<210> 256
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<210> 257
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<210> 271
<211> 2895
<212> DNA
<213> Homo sapiens

<400> 271
gtcgacccac gcgtccgggg agcgcggcta agagtgccgc accgcctcac aacctgggaa 60
ccggagagta ggggccgtcg gctggcaaga acccgccgtg cctcctcggc aagggccatc 120

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cggtgccacc catgtcgcac tagagcagaa gagggtgagt cctgaactgc aacctgcaca 180
gagctgctct gtactgtccc tggtggtcgc cgccatgacc tggttggtgc tgctggggac 240
actgctctgc atgctgcgcg ttgggttagg caccccggac tccgagggtt tcccgccccg 300
tgcgctccac aactgcccct acaaatgtat ctgcgctgcc gacctgctaa gctgcactgg 360
cctagggctg caggacgtgc cagccgagtt acctgccgct actgcggacc tcgacctgag 420
ccacaacgcg ctccagcgcc tgcgcccccgg ctggttggcg cccctcttcc agctgcgcgc 480
cctgcaccta gaccacaacg aactagatgc gctgggtcgc ggcgtcttcg tcaacgccag 540
cggcctgagg ctgctcgatc tatcatctaa cacgttgcgg gcgcttggcc gccacgacct 600
cgacgggctg ggggcgctgg agaagctgct tctgttcaat aaccgcttgg tgcacttgga 660
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cgcctcgttc tccttcgacc acctgcacgg tctgagcgcc acccacctgc ttactctgga 780
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178

<210> 272
<211> 1365
<212> DNA
<213> Homo sapiens

<400> 272
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<210> 273
<211> 455
<212> PRT
<213> Homo sapiens

<400> 273

Met Thr Trp Leu Val Leu Leu Gly Thr Leu Leu Cys Met Leu Arg Val
1   5   10   15

Gly Leu Gly Thr Pro Asp Ser Glu Gly Phe Pro Pro Arg Ala Leu His
                20   25   30

Asn Cys Pro Tyr Lys Cys Ile Cys Ala Ala Asp Leu Leu Ser Cys Thr
            35   40   45

Gly Leu Gly Leu Gln Asp Val Pro Ala Glu Leu Pro Ala Ala Thr Ala

Asp Leu Asp Leu Ser His Asn Ala Leu Gln Arg Leu Arg Pro Gly Trp
65   70   75   80

Leu Ala Pro Leu Phe Gln Leu Arg Ala Leu His Leu Asp His Asn Glu
                    85   90   95

Leu Asp Ala Leu Gly Arg Gly Val Phe Val Asn Ala Ser Gly Leu Arg
                    100   105   110

Leu Leu Asp Leu Ser Ser Asn Thr Leu Arg Ala Leu Gly Arg His Asp
                    115   120   125

Leu Asp Gly Leu Gly Ala Leu Glu Lys Leu Leu Leu Phe Asn Asn Arg
                    130   135   140

Leu Val His Leu Asp Glu His Ala Phe His Gly Leu Arg Ala Leu Ser
145   150   155   160

His Leu Tyr Leu Gly Cys Asn Glu Leu Ala Ser Phe Ser Phe Asp His
                    165   170   175

Leu His Gly Leu Ser Ala Thr His Leu Leu Thr Leu Asp Leu Ser Ser
                    180   185   190

Asn Arg Leu Gly His Ile Ser Val Pro Glu Leu Ala Ala Leu Pro Ala
                    195   200   205

Phe Leu Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp
                    210   215   220

Cys Arg Leu Tyr His Leu Leu Gln Arg Trp His Gln Arg Gly Leu Ser
225   230   235   240

Ala Val Arg Asp Phe Ala Arg Glu Tyr Val Cys Leu Ala Phe Lys Val
                    245   250   255

Pro Ala Ser Arg Val Arg Phe Phe Gln His Ser Arg Val Phe Glu Asn
                    260   265   270

Cys Ser Ser Ala Pro Ala Leu Gly Leu Lys Arg Pro Glu Glu His Leu
                    275   280   285

Tyr Ala Leu Val Gly Arg Ser Leu Arg Leu Tyr Cys Asn Thr Ser Val
290   295   300

Pro Ala Met Arg Ile Ala Trp Val Ser Pro Gln Gln Glu Leu Leu Arg

Ala Pro Gly Ser Arg Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser
                325   330   335

Leu Ala Ile Gly Asn Val Gln Glu Gln His Ala Gly Leu Phe Val Cys
                340   345   350

Leu Ala Thr Gly Pro Arg Leu His His Asn Gln Thr His Glu Tyr Asn
                355   360   365

Val Ser Val His Phe Pro Arg Pro Glu Pro Glu Ala Phe Asn Thr Gly
        370   375   380

Phe Thr Thr Leu Leu Gly Cys Ala Val Gly Leu Val Leu Val Leu Leu
385   390   395   400

Tyr Leu Phe Ala Pro Pro Cys Arg Cys Cys Arg Arg Ala Cys Pro Leu
                405   410   415

Pro Pro Leu Ala Pro Asn Thr Gln Pro Ala Pro Arg Ala Glu Pro His
                420   425   430

Lys Ser Ser Val Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Pro Gln
                435   440   445

Gly Gln Ala Ser Thr Ser Thr
        450   455

<210> 274
<211> 20
<212> PRT
<213> Homo sapiens

<400> 274
Met Thr Trp Leu Val Leu Leu Gly Thr Leu Leu Cys Met Leu Arg Val
  1   5   10   15

Gly Leu Gly Thr
                20

<210> 275
<211> 435
<212> PRT
<213> Homo sapiens

<400> 275

Pro Asp Ser Glu Gly Phe Pro Pro Arg Ala Leu His Asn Cys Pro Tyr
1   5   10   15

Lys Cys Ile Cys Ala Ala Asp Leu Leu Ser Cys Thr Gly Leu Gly Leu
            20   25   30

Gln Asp Val Pro Ala Glu Leu Pro Ala Ala Thr Ala Asp Leu Asp Leu
            35   40   45

Ser His Asn Ala Leu Gln Arg Leu Arg Pro Gly Trp Leu Ala Pro Leu
    50   55   60

Phe Gln Leu Arg Ala Leu His Leu Asp His Asn Glu Leu Asp Ala Leu
65   70   75   80

Gly Arg Gly Val Phe Val Asn Ala Ser Gly Leu Arg Leu Leu Asp Leu
                85   90   95

Ser Ser Asn Thr Leu Arg Ala Leu Gly Arg His Asp Leu Asp Gly Leu
            100   105   110

Gly Ala Leu Glu Lys Leu Leu Leu Phe Asn Asn Arg Leu Val His Leu
            115   120   125

Asp Glu His Ala Phe His Gly Leu Arg Ala Leu Ser His Leu Tyr Leu
    130   135   140

Gly Cys Asn Glu Leu Ala Ser Phe Ser Phe Asp His Leu His Gly Leu
145   150   155   160

Ser Ala Thr His Leu Leu Thr Leu Asp Leu Ser Ser Asn Arg Leu Gly
            165   170   175

His Ile Ser Val Pro Glu Leu Ala Ala Leu Pro Ala Phe Leu Lys Asn
            180   185   190

Gly Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp Cys Arg Leu Tyr
            195   200   205

His Leu Leu Gln Arg Trp His Gln Arg Gly Leu Ser Ala Val Arg Asp
    210   215   220

Phe Ala Arg Glu Tyr Val Cys Leu Ala Phe Lys Val Pro Ala Ser Arg
225   230   235   240

Val Arg Phe Phe Gln His Ser Arg Val Phe Glu Asn Cys Ser Ser Ala
            245   250   255

182

Pro Ala Leu Gly Leu Lys Arg Pro Glu Glu His Leu Tyr Ala Leu Val
         260   265   270

Gly Arg Ser Leu Arg Leu Tyr Cys Asn Thr Ser Val Pro Ala Met Arg
         275   280   285

Ile Ala Trp Val Ser Pro Gln Gln Glu Leu Leu Arg Ala Pro Gly Ser
     290   295   300

Arg Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser Leu Ala Ile Gly
305   310   315   320

Asn Val Gln Glu Gln His Ala Gly Leu Phe Val Cys Leu Ala Thr Gly
         325   330   335

Pro Arg Leu His His Asn Gln Thr His Glu Tyr Asn Val Ser Val His
         340   345   350

Phe Pro Arg Pro Glu Pro Glu Ala Phe Asn Thr Gly Phe Thr Thr Leu
         355   360   365

Leu Gly Cys Ala Val Gly Leu Val Leu Val Leu Leu Tyr Leu Phe Ala
     370   375   380

Pro Pro Cys Arg Cys Cys Arg Arg Ala Cys Pro Leu Pro Pro Leu Ala
385   390   395   400

Pro Asn Thr Gln Pro Ala Pro Arg Ala Glu Pro His Lys Ser Ser Val
                 405   410   415

Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Pro Gln Gly Gln Ala Ser
             420   425   430

Thr Ser Thr
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<210> 276
<211> 363
<212> PRT
<213> Homo sapiens

<400> 276
Pro Asp Ser Glu Gly Phe Pro Pro Arg Ala Leu His Asn Cys Pro Tyr
  1   5   10   15

Lys Cys Ile Cys Ala Ala Asp Leu Leu Ser Cys Thr Gly Leu Gly Leu

183

Gln Asp Val Pro Ala Glu Leu Pro Ala Ala Thr Ala Asp Leu Asp Leu
        35   40   45

Ser His Asn Ala Leu Gln Arg Leu Arg Pro Gly Trp Leu Ala Pro Leu
    50   55   60

Phe Gln Leu Arg Ala Leu His Leu Asp His Asn Glu Leu Asp Ala Leu
65   70   75   80

Gly Arg Gly Val Phe Val Asn Ala Ser Gly Leu Arg Leu Leu Asp Leu
            85   90   95

Ser Ser Asn Thr Leu Arg Ala Leu Gly Arg His Asp Leu Asp Gly Leu
            100   105   110

Gly Ala Leu Glu Lys Leu Leu Leu Phe Asn Asn Arg Leu Val His Leu
        115   120   125

Asp Glu His Ala Phe His Gly Leu Arg Ala Leu Ser His Leu Tyr Leu
    130   135   140

Gly Cys Asn Glu Leu Ala Ser Phe Ser Phe Asp His Leu His Gly Leu
145   150   155   160

Ser Ala Thr His Leu Leu Thr Leu Asp Leu Ser Ser Asn Arg Leu Gly
            165   170   175

His Ile Ser Val Pro Glu Leu Ala Ala Leu Pro Ala Phe Leu Lys Asn
            180   185   190

Gly Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp Cys Arg Leu Tyr
        195   200   205

His Leu Leu Gln Arg Trp His Gln Arg Gly Leu Ser Ala Val Arg Asp
    210   215   220

Phe Ala Arg Glu Tyr Val Cys Leu Ala Phe Lys Val Pro Ala Ser Arg
225   230   235   240

Val Arg Phe Phe Gln His Ser Arg Val Phe Glu Asn Cys Ser Ser Ala
            245   250   255

Pro Ala Leu Gly Leu Lys Arg Pro Glu Glu His Leu Tyr Ala Leu Val
        260   265   270

Gly Arg Ser Leu Arg Leu Tyr Cys Asn Thr Ser Val Pro Ala Met Arg

184

Ile Ala Trp Val Ser Pro Gln Gln Glu Leu Leu Arg Ala Pro Gly Ser
    290   295   300

Arg Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser Leu Ala Ile Gly
305   310   315   320

Asn Val Gln Glu Gln His Ala Gly Leu Phe Val Cys Leu Ala Thr Gly
                  325   330   335

Pro Arg Leu His His Asn Gln Thr His Glu Tyr Asn Val Ser Val His
              340   345   350

Phe Pro Arg Pro Glu Pro Glu Ala Phe Asn Thr
          355   360

<210> 277
<211> 20
<212> PRT
<213> Homo sapiens

<400> 277
Gly Phe Thr Thr Leu Leu Gly Cys Ala Val Gly Leu Val Leu Val Leu
    1   5   10   15

Leu Tyr Leu Phe
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<210> 278
<211> 52
<212> PRT
<213> Homo sapiens

<400> 278
Ala Pro Pro Cys Arg Cys Cys Arg Arg Ala Cys Pro Leu Pro Pro Leu
    1   5   10   15

Ala Pro Asn Thr Gln Pro Ala Pro Arg Ala Glu Pro His Lys Ser Ser
              20   25   30

Val Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Pro Gln Gly Gln Ala
          35   40   45

Ser Thr Ser Thr
    50

<210> 279
<211> 1518
<212> DNA
<213> Homo sapiens

<400> 279
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aaaaaaaagg gcggccgc 1518

<210> 280
<211> 1113
<212> DNA
<213> Homo sapiens

<400> 280
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gagcacagct ccagcatcc cttcctccag gcagtgggca tgttcctggg agaattctcc 180
tgcctggctg ccttctacct cctccgatgc agagctgcag ggcaatcaga ctccagcgta 240
gaccccagc agcccttcaa ccctcttctt ttcctgcccc cagcgctctg tgacatgaca 300
gggaccagcc tcatgtatgt ggctctgaac atgaccagtg cctccagctt ccagatgctg 360

186

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<210> 281
<211> 371
<212> PRT
<213> Homo sapiens

<400> 281
Met Ala Trp Thr Lys Tyr Gln Leu Phe Leu Ala Gly Leu Met Leu Val
 1               5                   10                  15


Thr Gly Ser Ile Asn Thr Leu Ser Ala Lys Trp Ala Asp Asn Phe Met
                20                  25                  30


Ala Glu Gly Cys Gly Gly Ser Lys Glu His Ser Phe Gln His Pro Phe
            35                  40                  45


Leu Gln Ala Val Gly Met Phe Leu Gly Glu Phe Ser Cys Leu Ala Ala
        50                  55                  60


Phe Tyr Leu Leu Arg Cys Arg Ala Ala Gly Gln Ser Asp Ser Ser Val
65                  70                  75                  80


Asp Pro Gln Gln Pro Phe Asn Pro Leu Leu Phe Leu Pro Pro Ala Leu
                85                  90                  95


Cys Asp Met Thr Gly Thr Ser Leu Met Tyr Val Ala Leu Asn Met Thr
                100                 105                 110


Ser Ala Ser Ser Phe Gln Met Leu Arg Gly Ala Val Ile Ile Phe Thr
            115                 120                 125


Gly Leu Phe Ser Val Ala Phe Leu Gly Arg Arg Leu Val Leu Ser Gln
        130                 135                 140
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187

Trp Leu Gly Ile Leu Ala Thr Ile Ala Gly Leu Val Val Val Gly Leu
145   150   155   160

Ala Asp Leu Leu Ser Lys His Asp Ser Gln His Lys Leu Ser Glu Val
                165   170   175

Ile Thr Gly Asp Leu Leu Ile Ile Met Ala Gln Ile Ile Val Ala Ile
        180   185   190

Gln Met Val Leu Glu Glu Lys Phe Val Tyr Lys His Asn Val His Pro
        195   200   205

Leu Arg Ala Val Gly Thr Glu Gly Leu Phe Gly Phe Val Ile Leu Ser
    210   215   220

Leu Leu Leu Val Pro Met Tyr Tyr Ile Pro Ala Gly Ser Phe Ser Gly
225   230   235   240

Asn Pro Arg Gly Thr Leu Glu Asp Ala Leu Asp Ala Phe Cys Gln Val
            245   250   255

Gly Gln Gln Pro Leu Ile Ala Val Ala Leu Leu Gly Asn Ile Ser Ser
        260   265   270

Ile Ala Phe Phe Asn Phe Ala Gly Ile Ser Val Thr Lys Glu Leu Ser
        275   280   285

Ala Thr Thr Arg Met Val Leu Asp Ser Leu Arg Thr Val Val Ile Trp
    290   295   300

Ala Leu Ser Leu Ala Leu Gly Trp Glu Ala Phe His Ala Leu Gln Ile
305   310   315   320

Leu Gly Phe Leu Ile Leu Leu Ile Gly Thr Ala Leu Tyr Asn Gly Leu
            325   330   335

His Arg Pro Leu Leu Gly Arg Leu Ser Arg Gly Arg Pro Leu Ala Glu
        340   345   350

Glu Ser Glu Gln Glu Arg Leu Leu Gly Gly Thr Arg Thr Pro Ile Asn
        355   360   365

Asp Ala Ser
    370

<210> 282
<211> 18

188

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<212> PRT
<213> Homo sapiens

<400> 282
Met Ala Trp Thr Lys Tyr Gln Leu Phe Leu Ala Gly Leu Met Leu Val
  1               5                  10                  15

Thr Gly




<210> 283
<211> 353
<212> PRT
<213> Homo sapiens

<400> 283
Ser Ile Asn Thr Leu Ser Ala Lys Trp Ala Asp Asn Phe Met Ala Glu
  1               5                  10                  15

Gly Cys Gly Gly Ser Lys Glu His Ser Phe Gln His Pro Phe Leu Gln
                20                  25                  30

Ala Val Gly Met Phe Leu Gly Glu Phe Ser Cys Leu Ala Ala Phe Tyr
                35                  40                  45

Leu Leu Arg Cys Arg Ala Ala Gly Gln Ser Asp Ser Ser Val Asp Pro
       50                  55                  60

Gln Gln Pro Phe Asn Pro Leu Leu Phe Leu Pro Pro Ala Leu Cys Asp
 65                  70                  75                  80

Met Thr Gly Thr Ser Leu Met Tyr Val Ala Leu Asn Met Thr Ser Ala
                85                  90                  95

Ser Ser Phe Gln Met Leu Arg Gly Ala Val Ile Ile Phe Thr Gly Leu
               100                 105                 110

Phe Ser Val Ala Phe Leu Gly Arg Arg Leu Val Leu Ser Gln Trp Leu
               115                 120                 125

Gly Ile Leu Ala Thr Ile Ala Gly Leu Val Val Val Gly Leu Ala Asp
        130                 135                 140

Leu Leu Ser Lys His Asp Ser Gln His Lys Leu Ser Glu Val Ile Thr
145                 150                 155                 160

Gly Asp Leu Leu Ile Ile Met Ala Gln Ile Ile Val Ala Ile Gln Met
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189

Val Leu Glu Glu Lys Phe Val Tyr Lys His Asn Val His Pro Leu Arg
            180   185   190

Ala Val Gly Thr Glu Gly Leu Phe Gly Phe Val Ile Leu Ser Leu Leu
            195   200   205

Leu Val Pro Met Tyr Tyr Ile Pro Ala Gly Ser Phe Ser Gly Asn Pro
    210   215   220

Arg Gly Thr Leu Glu Asp Ala Leu Asp Ala Phe Cys Gln Val Gly Gln
225   230   235   240

Gln Pro Leu Ile Ala Val Ala Leu Leu Gly Asn Ile Ser Ser Ile Ala
                245   250   255

Phe Phe Asn Phe Ala Gly Ile Ser Val Thr Lys Glu Leu Ser Ala Thr
            260   265   270

Thr Arg Met Val Leu Asp Ser Leu Arg Thr Val Val Ile Trp Ala Leu
            275   280   285

Ser Leu Ala Leu Gly Trp Glu Ala Phe His Ala Leu Gln Ile Leu Gly
    290   295   300

Phe Leu Ile Leu Leu Ile Gly Thr Ala Leu Tyr Asn Gly Leu His Arg
305   310   315   320

Pro Leu Leu Gly Arg Leu Ser Arg Gly Arg Pro Leu Ala Glu Glu Ser
                325   330   335

Glu Gln Glu Arg Leu Leu Gly Gly Thr Arg Thr Pro Ile Asn Asp Ala
            340   345   350

Ser

<210> 284
<211> 29
<212> PRT
<213> Homo sapiens

<400> 284
Ser Ile Asn Thr Leu Ser Ala Lys Trp Ala Asp Asn Phe Met Ala Glu
    1   5   10   15

Gly Cys Gly Gly Ser Lys Glu His Ser Phe Gln His Pro
            20   25

<210> 285
<211> 9
<212> PRT
<213> Homo sapiens

<400> 285
Asn Met Thr Ser Ala Ser Ser Phe Gln
  1   5

<210> 286
<211> 14
<212> PRT
<213> Homo sapiens

<400> 286
Asp Leu Leu Ser Lys His Asp Ser Gln His Lys Leu Ser Glu
  1   5   10

<210> 287
<211> 27
<212> PRT
<213> Homo sapiens

<400> 287
Pro Ala Gly Ser Phe Ser Gly Asn Pro Arg Gly Thr Leu Glu Asp Ala
  1   5   10   15

Leu Asp Ala Phe Cys Gln Val Gly Gln Gln Pro
            20   25

<210> 288
<211> 7
<212> PRT
<213> Homo sapiens

<400> 288
Glu Ala Phe His Ala Leu Gln
  1   5

<210> 289

191

<211> 21
<212> PRT
<213> Homo sapiens

<400> 289
Phe Leu Gln Ala Val Gly Met Phe Leu Gly Glu Phe Ser Cys Leu Ala
 1   5   10   15

Ala Phe Tyr Leu Leu
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<210> 290
<211> 21
<212> PRT
<213> Homo sapiens

<400> 290
Leu Leu Phe Leu Pro Pro Ala Leu Cys Asp Met Thr Gly Thr Ser Leu
 1   5   10   15

Met Tyr Val Ala Leu
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<210> 291
<211> 19
<212> PRT
<213> Homo sapiens

<400> 291
Met Leu Arg Gly Ala Val Ile Ile Phe Thr Gly Leu Phe Ser Val Ala
 1   5   10   15

Phe Leu Gly

<210> 292
<211> 17
<212> PRT
<213> Homo sapiens

<400> 292
Trp Leu Gly Ile Leu Ala Thr Ile Ala Gly Leu Val Val Val Gly Leu
 1   5   10   15

Ala

<210> 293
<211> 17
<212> PRT
<213> Homo sapiens

<400> 293
Val Ile Thr Gly Asp Leu Leu Ile Ile Met Ala Gln Ile Ile Val Ala
 1   5   10   15

Ile

<210> 294
<211> 18
<212> PRT
<213> Homo sapiens

<400> 294
Gly Leu Phe Gly Phe Val Ile Leu Ser Leu Leu Leu Val Pro Met Tyr
 1   5   10   15

Tyr Ile

<210> 295
<211> 23
<212> PRT
<213> Homo sapiens

<400> 295
Leu Ile Ala Val Ala Leu Leu Gly Asn Ile Ser Ser Ile Ala Phe Phe
 1   5   10   15

Asn Phe Ala Gly Ile Ser Val
             20

<210> 296
<211> 20
<212> PRT
<213> Homo sapiens

<400> 296

Met Val Leu Asp Ser Leu Arg Thr Val Val Ile Trp Ala Leu Ser Leu
 1   5   10   15

Ala Leu Gly Trp
            20

<210> 297
<211> 17
<212> PRT
<213> Homo sapiens

<400> 297
Ile Leu Gly Phe Leu Ile Leu Leu Ile Gly Thr Ala Leu Tyr Asn Gly
 1   5   10   15

Leu

<210> 298
<211> 20
<212> PRT
<213> Homo sapiens

<400> 298
Arg Cys Arg Ala Ala Gly Gln Ser Asp Ser Ser Val Asp Pro Gln Gln
 1   5   10   15

Pro Phe Asn Pro
            20

<210> 299
<211> 7
<212> PRT
<213> Homo sapiens

<400> 299
Arg Arg Leu Val Leu Ser Gln
 1   5

<210> 300
<211> 23
<212> PRT
<213> Homo sapiens

<400> 300
Gln Met Val Leu Glu Glu Lys Phe Val Tyr Lys His Asn Val His Pro
 1   5   10   15

Leu Arg Ala Val Gly Thr Glu
            20

<210> 301
<211> 9
<212> PRT
<213> Homo sapiens

<400> 301
Thr Lys Glu Leu Ser Ala Thr Thr Arg
 1   5

<210> 302
<211> 35
<212> PRT
<213> Homo sapiens

<400> 302
His Arg Pro Leu Leu Gly Arg Leu Ser Arg Gly Arg Pro Leu Ala Glu
 1   5   10   15

Glu Ser Glu Gln Glu Arg Leu Leu Gly Gly Thr Arg Thr Pro Ile Asn
            20   25   30

Asp Ala Ser
        35

<210> 303
<211> 2811
<212> DNA
<213> Homo sapiens

<400> 303
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gaggtgtggt ggaaccttgt gccgcgtaag acagtgtctt ctggggagct ggccacggta 180
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actgggcttc tgtacgtggg cgcccgagag gccctgtttg ccttcagcat ggaggccctg 300
gagctgcaag gagcgatctc ctgggaggcc cccgtggaga agaagactga gtgtatccag 360
aaagggaaga caaccagac cgagtgcttc aacttcatcc gcttcctgca gccctacaat 420
gcctcccacc tgtacgtctg tggcacctac gccttccagc ccaagtgcac ctacgtcgtg 480

195

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agtgctgccc tcctacctcg gtgtccccag cccccggccc tcctcaccct tctctggact 540
cgtggatgtg gcccacagag ccctgccctt aagcatctcc tcatcacctc tctctctgtc 600
cttagaacat gctcaccttc actttggagc atggagagtt tgaagatggg aagggcaagt 660
gtccctatga cccagctaag ggccatgctg gccttcttgt ggatggtgag ctgtactcgg 720
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tgtggacaat ggcatactct cttccagccc taggaggagg gctcctaaca gtgtaactta 2760
ttgtgtcccc gcgtatttat ttgttgtaaa tatttgagat ttttatattg a          2811
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<400> 304
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cccactgggc ttctgtacgt gggcgcccga gaggccctgt ttgccttcag catggaggcc 240
ctggagctgc aaggagcgat ctcctgggag gcccccgtgg agaagaagac tgagtgtatc 300
cagaaaggga agaacaacca gaccgagtgc ttcaacttca tccgcttcct gcagccctac 360
aatgcctccc acctgtacgt ctgtggcacc tacgccttcc agcccaagtg cacctacgtc 420
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gtccttagaa catgctcacc ttcactttgg agcatggaga gtttgaagat gggaagggca 600
agtgtcccta tgacccagct aagggccatg ctggccttct gtggatggt gagctgtact 660
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accactcca                                                       729
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<210> 305
<211> 243
<212> PRT
<213> Homo sapiens

<400> 305
Met Ala Pro His Trp Ala Val Trp Leu Leu Ala Ala Arg Leu Trp Gly
 1   5   10   15

Leu Gly Ile Gly Ala Glu Val Trp Trp Asn Leu Val Pro Arg Lys Thr
            20   25   30

Val Ser Ser Gly Glu Leu Ala Thr Val Val Arg Arg Phe Ser Gln Thr
            35   40   45

Gly Ile Gln Asp Phe Leu Thr Leu Thr Leu Thr Glu Pro Thr Gly Leu
    50   55   60

Leu Tyr Val Gly Ala Arg Glu Ala Leu Phe Ala Phe Ser Met Glu Ala
65   70   75   80

Leu Glu Leu Gln Gly Ala Ile Ser Trp Glu Ala Pro Val Glu Lys Lys
            85   90   95

Thr Glu Cys Ile Gln Lys Gly Lys Asn Asn Gln Thr Glu Cys Phe Asn
            100   105   110

Phe Ile Arg Phe Leu Gln Pro Tyr Asn Ala Ser His Leu Tyr Val Cys
            115   120   125

Gly Thr Tyr Ala Phe Gln Pro Lys Cys Thr Tyr Val Val Ser Ala Ala
    130   135   140

Leu Leu Pro Arg Cys Pro Gln Pro Pro Ala Leu Leu Thr Leu Leu Trp

197
```

Thr Arg Gly Cys Gly Pro Gln Ser Pro Ala Leu Lys His Leu Leu Ile
                165                    170                    175

Thr Ser Leu Ser Val Leu Arg Thr Cys Ser Pro Ser Leu Trp Ser Met
            180                    185                    190

Glu Ser Leu Lys Met Gly Arg Ala Ser Val Pro Met Thr Gln Leu Arg
        195                    200                    205

Ala Met Leu Ala Phe Leu Trp Met Val Ser Cys Thr Arg Pro His Ser
    210                    215                    ·220

Thr Thr Ser Trp Ala Arg Asn Pro Leu Ser Cys Val Thr Trp Gly Pro
225                    230                    235                    240

Thr Thr Pro


<210> 306
<211> 20
<212> PRT
<213> Homo sapiens

<400> 306
Met Ala Pro His Trp Ala Val Trp Leu Leu Ala Ala Arg Leu Trp Gly
  1                  5                    10                    15

Leu Gly Ile Gly
            20


<210> 307
<211> 223
<212> PRT
<213> Homo sapiens

<400> 307
Ala Glu Val Trp Trp Asn Leu Val Pro Arg Lys Thr Val Ser Ser Gly
  1                  5                    10                    15

Glu Leu Ala Thr Val Val Arg Arg Phe Ser Gln Thr Gly Ile Gln Asp
            20                    25                    30

Phe Leu Thr Leu Thr Leu Thr Glu Pro Thr Gly Leu Leu Tyr Val Gly
        35                    40                    45

```
Ala Arg Glu Ala Leu Phe Ala Phe Ser Met Glu Ala Leu Glu Leu Gln
    50                      55                  60

Gly Ala Ile Ser Trp Glu Ala Pro Val Glu Lys Lys Thr Glu Cys Ile
65                  70                  75                      80

Gln Lys Gly Lys Asn Asn Gln Thr Glu Cys Phe Asn Phe Ile Arg Phe
                85                  90                  95

Leu Gln Pro Tyr Asn Ala Ser His Leu Tyr Val Cys Gly Thr Tyr Ala
                100                 105                 110

Phe Gln Pro Lys Cys Thr Tyr Val Val Ser Ala Ala Leu Leu Pro Arg
            115                 120                 125

Cys Pro Gln Pro Pro Ala Leu Leu Thr Leu Leu Trp Thr Arg Gly Cys
    130                 135                 140

Gly Pro Gln Ser Pro Ala Leu Lys His Leu Leu Ile Thr Ser Leu Ser
145                 150                 155                 160

Val Leu Arg Thr Cys Ser Pro Ser Leu Trp Ser Met Glu Ser Leu Lys
                165                 170                 175

Met Gly Arg Ala Ser Val Pro Met Thr Gln Leu Arg Ala Met Leu Ala
            180                 185                 190

Phe Leu Trp Met Val Ser Cys Thr Arg Pro His Ser Thr Thr Ser Trp
            195                 200                 205

Ala Arg Asn Pro Leu Ser Cys Val Thr Trp Gly Pro Thr Thr Pro
    210                 215                 220

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<210> 308
<211> 2498
<212> DNA
<213> Homo sapiens

<400> 308
gtcgacccac gcgtccgcgg acgcgtgggc gcgcgggggc catccagacc ctgcggagag  60
cgaggcccgg agcgtcgccg aggtttgagg gcgccggaga ccgagggcct ggcggccgaa  120
ggaaccgccc caagaagagc ctctggcccg ggggctgctg aacatgtgc ggggggacac  180
agtttgtttg acagttgcca gactatgttt acgcttctgg ttctactcag ccaactgccc  240
acagttaccc tggggtttcc tcattgcgca agaggtccaa aggcttctaa gcatgcggga  300
gaagaagtgt ttacatcaaa agaagaagca aacttttca tacatagacg ccttctgtat  360
aatagatttg atctggagct cttcactccc ggcaacctag aaagagagtg caatgaagaa  420
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199

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ctttgcaatt atgaggaagc cagagagatt tttgtggatg aagataaaac gattgcattt 480
tggcaggaat attcagctaa aggaccaacc acaaaatcag atggcaacag agagaaaata 540
gatgttatgg gccttctgac tggattaatt gctgctggag tattttggt tatttttgga 600
ttacttggct actatctttg tatcactaag tgtaataggc tacaacatcc atgctcttca 660
gccgtctatg aaagggggag gcacactccc tccatcattt tcagaagacc tgaggaggct 720
gccttgtctc cattgccgcc ttctgtggag gatgcaggat taccttctta tgaacaggca 780
gtggcgctga ccagaaaaca cagtgtttca ccaccaccac catatcctgg gcacacaaaa 840
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gaggctgaag caggagaatt gctcgaacct gggaggcaga ggttgcagta agctgagatc 1140
acgccactgc attccagcct gggcgacaga gcaagactcc atctcaaaaa taaaataaaa 1200
aaagaaagaa agaaaagaag aagaaaagag aagaaggaga aggagatgaa ggaggaggag 1260
gaggagaagg agaagaagaa gaagaagaag accacaaaag acatgactat ccaacttttt 1320
atgacaaact gcaaggaata aaggaagaat aagtccatgt actgtaccac agaagttctg 1380
tctgcatctt ggacctgaac ttgatcatta tcagcttgat aagagacttt ttgactctat 1440
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atctttctta taaagagcat aggtagaatt agtgaactct ttggatcctt tgtacagata 1560
aaggttatag atttcttgtg ttgaatatta aaaaagcaag gatgtctaac cattaagatt 1620
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ccgtctctac aaaaatacaa aagaaattag ccagacatga tggcgggtgc ctctaatccc 1800
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tggcggggggg ttagaaatac ttcacagaat ttgacatttc agtataaatc tgtgacctta 2040
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tttagttctt aactcttgct gtcagtcatg tttttattata ggtagtgggg tcagtagttt 2160
tcttcttcta aaaaatacta tttgctatga agttagttct tcagaagata caagtttgca 2220
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cactagaact taatgaagtt gccctgtta ctgattagta aatactccca tcttcgttgc 2340
aaaattatct ctctgtataa ctacatatga ttattttgaa atttgttaaa cttcataagt 2400
aatagtttga gaatgtggaa aaagtaattt gcttttctgc tcttaaaata atattgatta 2460
atgttaccag aaaaaaaaaa aaaaaaaagg gcggccgc                        2498
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<210> 309
<211> 678
<212> DNA
<213> Homo sapiens

<400> 309
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atgtttacgc ttctggttct actcagccaa ctgcccacag ttaccctggg gtttcctcat 60
tgcgcaagag gtccaaaggc ttctaagcat gcgggagaag aagtgtttac atcaaaagaa 120
gaagcaaact ttttcataca tagacgcctt ctgtataata gatttgatct ggagctcttc 180
actcccggca acctagaaag agagtgcaat gaagaacttt gcaattatga ggaagccaga 240
gagattttg tggatgaaga taaaacgatt gcattttggc aggaatattc agctaaagga 300
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200

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ccaaccacaa aatcagatgg caacagagag aaaatagatg ttatgggcct tctgactgga 360
ttaattgctg ctggagtatt tttggttatt tttggattac ttggctacta tctttgtatc 420
actaagtgta ataggctaca acatccatgc tcttcagccg tctatgaaag ggggaggcac 480
actccctcca tcattttcag aagacctgag gaggctgcct tgtctccatt gccgccttct 540
gtggaggatg caggattacc ttcttatgaa caggcagtgg cgctgaccag aaaacacagt 600
gtttcaccac caccaccata tcctgggcac acaaaggat ttagggtatt taaaaaatct 660
atgtctctcc catctcac                                           678
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<210> 310
<211> 226
<212> PRT
<213> Homo sapiens

<400> 310

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Met Phe Thr Leu Leu Val Leu Leu Ser Gln Leu Pro Thr Val Thr Leu
  1               5                  10                  15

Gly Phe Pro His Cys Ala Arg Gly Pro Lys Ala Ser Lys His Ala Gly
             20                  25                  30

Glu Glu Val Phe Thr Ser Lys Glu Glu Ala Asn Phe Phe Ile His Arg
         35                  40                  45

Arg Leu Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn
     50                  55                  60

Leu Glu Arg Glu Cys Asn Glu Glu Leu Cys Asn Tyr Glu Glu Ala Arg
 65                  70                  75                  80

Glu Ile Phe Val Asp Glu Asp Lys Thr Ile Ala Phe Trp Gln Glu Tyr
             85                  90                  95

Ser Ala Lys Gly Pro Thr Thr Lys Ser Asp Gly Asn Arg Glu Lys Ile
             100                 105                 110

Asp Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu
         115                 120                 125

Val Ile Phe Gly Leu Leu Gly Tyr Tyr Leu Cys Ile Thr Lys Cys Asn
     130                 135                 140

Arg Leu Gln His Pro Cys Ser Ser Ala Val Tyr Glu Arg Gly Arg His
145                 150                 155                 160

Thr Pro Ser Ile Ile Phe Arg Arg Pro Glu Glu Ala Ala Leu Ser Pro
                165                 170                 175
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201

Leu Pro Pro Ser Val Glu Asp Ala Gly Leu Pro Ser Tyr Glu Gln Ala
            180   185   190

Val Ala Leu Thr Arg Lys His Ser Val Ser Pro Pro Pro Tyr Pro
            195   200   205

Gly His Thr Lys Gly Phe Arg Val Phe Lys Lys Ser Met Ser Leu Pro
        210   215   220

Ser His
225

<210> 311
<211> 17
<212> PRT
<213> Homo sapiens

<400> 311
Met Phe Thr Leu Leu Val Leu Leu Ser Gln Leu Pro Thr Val Thr Leu
  1   5   10   15

Gly

<210> 312
<211> 209
<212> PRT
<213> Homo sapiens

<400> 312
Phe Pro His Cys Ala Arg Gly Pro Lys Ala Ser Lys His Ala Gly Glu
  1   5   10   15

Glu Val Phe Thr Ser Lys Glu Glu Ala Asn Phe Phe Ile His Arg Arg
            20   25   30

Leu Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu
            35   40   45

Glu Arg Glu Cys Asn Glu Glu Leu Cys Asn Tyr Glu Glu Ala Arg Glu
        50   55   60

Ile Phe Val Asp Glu Asp Lys Thr Ile Ala Phe Trp Gln Glu Tyr Ser
 65   70   75   80

Ala Lys Gly Pro Thr Thr Lys Ser Asp Gly Asn Arg Glu Lys Ile Asp

202

Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val
        100   105   110

Ile Phe Gly Leu Leu Gly Tyr Tyr Leu Cys Ile Thr Lys Cys Asn Arg
        115   120   125

Leu Gln His Pro Cys Ser Ser Ala Val Tyr Glu Arg Gly Arg His Thr
    130   135   140

Pro Ser Ile Ile Phe Arg Arg Pro Glu Glu Ala Ala Leu Ser Pro Leu
145   150   155   160

Pro Pro Ser Val Glu Asp Ala Gly Leu Pro Ser Tyr Glu Gln Ala Val
                165   170   175

Ala Leu Thr Arg Lys His Ser Val Ser Pro Pro Pro Pro Tyr Pro Gly
        180   185   190

His Thr Lys Gly Phe Arg Val Phe Lys Lys Ser Met Ser Leu Pro Ser
        195   200   205

His

<210> 313
<211> 96
<212> PRT
<213> Homo sapiens

<400> 313
Phe Pro His Cys Ala Arg Gly Pro Lys Ala Ser Lys His Ala Gly Glu
  1   5   10   15

Glu Val Phe Thr Ser Lys Glu Glu Ala Asn Phe Phe Ile His Arg Arg
            20   25   30

Leu Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu
            35   40   45

Glu Arg Glu Cys Asn Glu Glu Leu Cys Asn Tyr Glu Glu Ala Arg Glu
    50   55   60

Ile Phe Val Asp Glu Asp Lys Thr Ile Ala Phe Trp Gln Glu Tyr Ser
65   70   75   80

Ala Lys Gly Pro Thr Thr Lys Ser Asp Gly Asn Arg Glu Lys Ile Asp
                85   90   95

<210> 314
<211> 25
<212> PRT
<213> Homo sapiens

<400> 314
Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val
  1   5   10   15

Ile Phe Gly Leu Leu Gly Tyr Tyr Leu
              20   25

<210> 315
<211> 88
<212> PRT
<213> Homo sapiens

<400> 315
Cys Ile Thr Lys Cys Asn Arg Leu Gln His Pro Cys Ser Ser Ala Val
  1   5   10   15

Tyr Glu Arg Gly Arg His Thr Pro Ser Ile Ile Phe Arg Arg Pro Glu
              20   25   30

Glu Ala Ala Leu Ser Pro Leu Pro Pro Ser Val Glu Asp Ala Gly Leu
          35   40   45

Pro Ser Tyr Glu Gln Ala Val Ala Leu Thr Arg Lys His Ser Val Ser
      50   55   60

Pro Pro Pro Pro Tyr Pro Gly His Thr Lys Gly Phe Arg Val Phe Lys
 65   70   75   80

Lys Ser Met Ser Leu Pro Ser His
                  85

<210> 316
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204

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<210> 324
<211> 1432
<212> DNA
<213> Homo sapiens

<220>
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aggccgccaa gaagccgacg ccctgccacc ggtgccgggg gctggtggac aagtttaacc 240
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agacgctgtc caagtacgag tccagcgaga ttcgcctgct ggagatcctg gagggggctgt 360
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cactgaaagt gtgctgctct ccaggaacct acggtcccga ctgtctcgca tgccagggcg 540
gatcccagag gccctgcagc gggaatggcc actgcagcgg agatgggagc agacagggcg 600
acgggtcctg ccggtgccac atggggtacc agggcccgct gtgcactgac tgcatggacg 660
gctacttcag ctcgctccgg aacgagaccc acagcatctg cacagcctgt gacgagtcct 720
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<210> 325
<211> 1059
<212> DNA
<213> Homo sapiens

<400> 325
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tttaaccagg ggatggtgga caccgcaaag aagaactttg gcggcgggaa cacggcttgg 180
gaggaaaaga cgctgtccaa gtacgagtcc agcgagattc gcctgctgga gatcctggag 240
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ctggaggcct ggtggctgca gctgaagagc gaatatcctg acttattcga gtggttttgt 360
gtgaagacac tgaaagtgtg ctgctctcca ggaacctacg gtcccgactg tctcgcatgc 420
cagggcggat cccagaggcc ctgcagcggg aatggccact gcagcggaga tgggagcaga 480
cagggcgacg ggtcctgccg gtgccacatg gggtaccagg gcccgctgtg cactgactgc 540
atggacggct acttcagctc gctccggaac gagacccaca gcatctgcac agcctgtgac 600
gagtcctgca agacgtgctc gggcctgacc aacagagact gcggcgagtg tgaagtgggc 660
tgggtgctgg acgagggcgc ctgtgtggat gtggacgagt gtgcggccga gccgcctccc 720
tgcagcgctg cgcagttctg taagaacgcc aacggctcct acgtgcgaag agtgtgac 780
tccagctgtg tgggctgcac aggggaaggc ccaggaaact gtaaagagtg tatctctggc 840
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tgtgtgagga aaaacgaaaa ctgctacaat actccaggga gctacgtctg tgtgtgtcct 960
gacggcttcg aagaaacgga agatgcctgt gtgccgccgg cagaggctga agccacagaa 1020
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206

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<210> 326
<211> 353
<212> PRT
<213> Homo sapiens

<400> 326
Met Arg Leu Pro Arg Arg Ala Ala Leu Gly Leu Leu Pro Leu Leu Leu
  1   5   10   15

Leu Leu Pro Pro Ala Pro Glu Ala Ala Lys Lys Pro Thr Pro Cys His
               20   25   30

Arg Cys Arg Gly Leu Val Asp Lys Phe Asn Gln Gly Met Val Asp Thr
            35   40   45

Ala Lys Lys Asn Phe Gly Gly Gly Asn Thr Ala Trp Glu Glu Lys Thr
         50   55   60

Leu Ser Lys Tyr Glu Ser Ser Glu Ile Arg Leu Leu Glu Ile Leu Glu
 65   70   75   80

Gly Leu Cys Glu Ser Ser Asp Phe Glu Cys Asn Gln Met Leu Glu Ala
               85   90   95

Gln Glu Glu His Leu Glu Ala Trp Trp Leu Gln Leu Lys Ser Glu Tyr
               100   105   110

Pro Asp Leu Phe Glu Trp Phe Cys Val Lys Thr Leu Lys Val Cys Cys
            115   120   125

Ser Pro Gly Thr Tyr Gly Pro Asp Cys Leu Ala Cys Gln Gly Gly Ser
    130   135   140

Gln Arg Pro Cys Ser Gly Asn Gly His Cys Ser Gly Asp Gly Ser Arg
145   150   155   160

Gln Gly Asp Gly Ser Cys Arg Cys His Met Gly Tyr Gln Gly Pro Leu
               165   170   175

Cys Thr Asp Cys Met Asp Gly Tyr Phe Ser Ser Leu Arg Asn Glu Thr
            180   185   190

His Ser Ile Cys Thr Ala Cys Asp Glu Ser Cys Lys Thr Cys Ser Gly
            195   200   205

207

```
Leu Thr Asn Arg Asp Cys Gly Glu Cys Glu Val Gly Trp Val Leu Asp
    210             215             220

Glu Gly Ala Cys Val Asp Val Asp Glu Cys Ala Ala Glu Pro Pro Pro
225             230             235             240

Cys Ser Ala Ala Gln Phe Cys Lys Asn Ala Asn Gly Ser Tyr Thr Cys
                245             250             255

Glu Glu Cys Asp Ser Ser Cys Val Gly Cys Thr Gly Glu Gly Pro Gly
            260             265             270

Asn Cys Lys Glu Cys Ile Ser Gly Tyr Ala Arg Glu His Gly Gln Cys
        275             280             285

Ala Asp Val Asp Glu Cys Ser Leu Ala Glu Lys Thr Cys Val Arg Lys
    290             295             300

Asn Glu Asn Cys Tyr Asn Thr Pro Gly Ser Tyr Val Cys Val Cys Pro
305             310             315             320

Asp Gly Phe Glu Glu Thr Glu Asp Ala Cys Val Pro Pro Ala Glu Ala
            325             330             335

Glu Ala Thr Glu Gly Glu Ser Pro Thr Gln Leu Pro Ser Arg Glu Asp
            340             345             350

Leu


<210> 327
<211> 24
<212> PRT
<213> Homo sapiens

<400> 327
Met Arg Leu Pro Arg Arg Ala Ala Leu Gly Leu Leu Pro Leu Leu Leu
  1             5               10              15

Leu Leu Pro Pro Ala Pro Glu Ala
            20


<210> 328
<211> 329
<212> PRT
<213> Homo sapiens
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<400> 328
Ala Lys Lys Pro Thr Pro Cys His Arg Cys Arg Gly Leu Val Asp Lys
  1   5   10   15

Phe Asn Gln Gly Met Val Asp Thr Ala Lys Lys Asn Phe Gly Gly Gly
            20   25   30

Asn Thr Ala Trp Glu Glu Lys Thr Leu Ser Lys Tyr Glu Ser Ser Glu
            35   40   45

Ile Arg Leu Leu Glu Ile Leu Glu Gly Leu Cys Glu Ser Ser Asp Phe
        50   55   60

Glu Cys Asn Gln Met Leu Glu Ala Gln Glu Glu His Leu Glu Ala Trp
 65   70   75   80

Trp Leu Gln Leu Lys Ser Glu Tyr Pro Asp Leu Phe Glu Trp Phe Cys
                85   90   95

Val Lys Thr Leu Lys Val Cys Cys Ser Pro Gly Thr Tyr Gly Pro Asp
            100   105   110

Cys Leu Ala Cys Gln Gly Gly Ser Gln Arg Pro Cys Ser Gly Asn Gly
            115   120   125

His Cys Ser Gly Asp Gly Ser Arg Gln Gly Asp Gly Ser Cys Arg Cys
    130   135   140

His Met Gly Tyr Gln Gly Pro Leu Cys Thr Asp Cys Met Asp Gly Tyr
145   150   155   160

Phe Ser Ser Leu Arg Asn Glu Thr His Ser Ile Cys Thr Ala Cys Asp
            165   170   175

Glu Ser Cys Lys Thr Cys Ser Gly Leu Thr Asn Arg Asp Cys Gly Glu
            180   185   190

Cys Glu Val Gly Trp Val Leu Asp Glu Gly Ala Cys Val Asp Val Asp
            195   200   205

Glu Cys Ala Ala Glu Pro Pro Pro Cys Ser Ala Ala Gln Phe Cys Lys
    210   215   220

Asn Ala Asn Gly Ser Tyr Thr Cys Glu Glu Cys Asp Ser Ser Cys Val
225   230   235   240

Gly Cys Thr Gly Glu Gly Pro Gly Asn Cys Lys Glu Cys Ile Ser Gly

209

Tyr Ala Arg Glu His Gly Gln Cys Ala Asp Val Asp Glu Cys Ser Leu
        260   265   270

Ala Glu Lys Thr Cys Val Arg Lys Asn Glu Asn Cys Tyr Asn Thr Pro
    275   280   285

Gly Ser Tyr Val Cys Val Cys Pro Asp Gly Phe Glu Glu Thr Glu Asp
    290   295   300

Ala Cys Val Pro Pro Ala Glu Ala Glu Ala Thr Glu Gly Glu Ser Pro
305   310   315   320

Thr Gln Leu Pro Ser Arg Glu Asp Leu
            325

<210> 329
<211> 2730
<212> DNA
<213> Homo sapiens

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cgacaaactt cgcagtgccg cgacccaacc ccagccctgg gtagcctgca gcatggccca 180
gctgttcctg cccctgctgg cagccctggt cctggcccag gctcctgcag ctttagcaga 240
tgttctggaa ggagacagct cagaggaccg cgcttttcgc gtgcgcatcg cgggcgacgc 300
gccactgcag ggcgtgctcg gcggcgccct caccatccct tgccacgtcc actacctgcg 360
gccaccgccg agccgccggg ctgtgctggg ctctccgcgg gtcaagtgga ctttcctgtc 420
ccggggccgg gaggcagagg tgctggtggc gcggggagtg cgcgtcaagg tgaacgaggc 480
ctaccggttc cgcgtggcac tgcctgcgta cccagcgtcg ctcaccgacg tctccctggc 540
gctgagcgag ctgcgcccca cgactcagg tatctatcgc tgtgaggtcc agcacggcat 600
cgatgacagc agcgacgctg tggaggtcaa ggtcaaaggg gtcgtctttc tctaccgaga 660
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gacagagacc ctggaggaac tgcagctgcc tcaggaagcc acagagagtg aatcccgtgg 1380
ggccatctac tccatcccca tcatggagga cggaggaggt ggaagctcca ctccagaaga 1440

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cagcgagctc agcagcccgg gccctgaggc ctctctcccc actgagccag cagcccagga 1680
gaagtcactc tcccaggcgc cagcaagggc agtcctgcag cctggtgcat caccacttcc 1740
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gcccactccc agggagagga acctagcatc cccatcacct tccactctgg ttgaggcaag 1860
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taccagggag ctggaggccc cctctgaaga taattctgga agaactgccc cagcagggac 2040
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gagaacccgt accccacag agccttaagc aactacttct gtgaagtatt ttttgactgt 2640
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aaaaaaaaaa aaaaaaaaaa gggcggccgc                                  2730


<210> 330
<211> 2013
<212> DNA
<213> Homo sapiens

<400> 330
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ggcgacgcgc cactgcaggg cgtgctcggc ggcgccctca ccatcccttg ccacgtccac 180
tacctgcggc caccgccgag ccgccgggct gtgctgggct ctccgcgggt caagtggact 240
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aacgaggcct accggttccg cgtggcactg cctgcgtacc cagcgtcgct caccgacgtc 360
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cacggcatcg atgacagcag cgacgctgtg gaggtcaagg tcaaaggggt cgtctttctc 480
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cgcattggag cccacatcgc cacccccggag cagctctatg ccgcctacct tgggggctat 600
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tgcagccccag ggtggctagc tgatggcagt gtgcgctacc ccatcgtcac acccagccag 960
cgctgtggtg ggggcttgcc tggtgtcaag actctcttcc tcttccccaa ccagactggc 1020
ttccccaata agcacagccg cttcaacgtc tactgcttcc gagactcggc ccagccttct 1080
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211

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tcccgtgggg ccatctactc catccccatc atggaggacg gaggaggtgg aagctccact 1260
ccagaagacc cagcagaggc ccctaggacg ctcctagaat ttgaaacaca atccatggta 1320
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gcccaggaga agtcactctc ccaggcgcca gcaagggcag tcctgcagcc tggtgcatca 1560
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gcagggacct cagtgcaggc ccagccagtg ctgcccactg acagcgccag ccgaggtgga 1920
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<210> 331
<211> 671
<212> PRT
<213> Homo sapiens

<400> 331

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Met Ala Gln Leu Phe Leu Pro Leu Leu Ala Ala Leu Val Leu Ala Gln
  1               5                  10                  15

Ala Pro Ala Ala Leu Ala Asp Val Leu Glu Gly Asp Ser Ser Glu Asp
                20                  25                  30

Arg Ala Phe Arg Val Arg Ile Ala Gly Asp Ala Pro Leu Gln Gly Val
                35                  40                  45

Leu Gly Gly Ala Leu Thr Ile Pro Cys His Val His Tyr Leu Arg Pro
       50                  55                  60

Pro Pro Ser Arg Arg Ala Val Leu Gly Ser Pro Arg Val Lys Trp Thr
 65                  70                  75                  80

Phe Leu Ser Arg Gly Arg Glu Ala Glu Val Leu Val Ala Arg Gly Val
                85                  90                  95

Arg Val Lys Val Asn Glu Ala Tyr Arg Phe Arg Val Ala Leu Pro Ala
                100                 105                 110

Tyr Pro Ala Ser Leu Thr Asp Val Ser Leu Ala Leu Ser Glu Leu Arg
       115                 120                 125
```

212

```
Pro Asn Asp Ser Gly Ile Tyr Arg Cys Glu Val Gln His Gly Ile Asp
    130             135             140

Asp Ser Ser Asp Ala Val Glu Val Lys Val Lys Gly Val Val Phe Leu
145             150             155             160

Tyr Arg Glu Gly Ser Ala Arg Tyr Ala Phe Ser Phe Ser Gly Ala Gln
            165             170             175

Glu Ala Cys Ala Arg Ile Gly Ala His Ile Ala Thr Pro Glu Gln Leu
        180             185             190

Tyr Ala Ala Tyr Leu Gly Gly Tyr Glu Gln Cys Asp Ala Gly Trp Leu
        195             200             205

Ser Asp Gln Thr Val Arg Tyr Pro Ile Gln Thr Pro Arg Glu Ala Cys
    210             215             220

Tyr Gly Asp Met Asp Gly Phe Pro Gly Val Arg Asn Tyr Gly Val Val
225             230             235             240

Asp Pro Asp Asp Leu Tyr Asp Val Tyr Cys Tyr Ala Glu Asp Leu Asn
            245             250             255

Gly Glu Leu Phe Leu Gly Asp Pro Pro Glu Lys Leu Thr Leu Glu Glu
            260             265             270

Ala Arg Ala Tyr Cys Gln Glu Arg Gly Ala Glu Ile Ala Thr Thr Gly
        275             280             285

Gln Leu Tyr Ala Ala Trp Asp Gly Gly Leu Asp His Cys Ser Pro Gly
    290             295             300

Trp Leu Ala Asp Gly Ser Val Arg Tyr Pro Ile Val Thr Pro Ser Gln
305             310             315             320

Arg Cys Gly Gly Gly Leu Pro Gly Val Lys Thr Leu Phe Leu Phe Pro
            325             330             335

Asn Gln Thr Gly Phe Pro Asn Lys His Ser Arg Phe Asn Val Tyr Cys
            340             345             350

Phe Arg Asp Ser Ala Gln Pro Ser Ala Ile Pro Glu Ala Ser Asn Pro
        355             360             365

Ala Ser Asn Pro Ala Ser Asp Gly Leu Glu Ala Ile Val Thr Val Thr
    370             375             380

                            213
```

Glu Thr Leu Glu Glu Leu Gln Leu Pro Gln Glu Ala Thr Glu Ser Glu
385   390   395   400

Ser Arg Gly Ala Ile Tyr Ser Ile Pro Ile Met Glu Asp Gly Gly Gly
                405   410   415

Gly Ser Ser Thr Pro Glu Asp Pro Ala Glu Ala Pro Arg Thr Leu Leu
            420   425   430

Glu Phe Glu Thr Gln Ser Met Val Pro Pro Thr Gly Phe Ser Glu Glu
            435   440   445

Glu Gly Lys Ala Leu Glu Glu Glu Lys Tyr Glu Asp Glu Glu Glu
        450   455   460

Lys Glu Glu Glu Glu Glu Glu Glu Glu Val Glu Asp Glu Ala Leu Trp
465   470   475   480

Ala Trp Pro Ser Glu Leu Ser Ser Pro Gly Pro Glu Ala Ser Leu Pro
                485   490   495

Thr Glu Pro Ala Ala Gln Glu Lys Ser Leu Ser Gln Ala Pro Ala Arg
            500   505   510

Ala Val Leu Gln Pro Gly Ala Ser Pro Leu Pro Asp Gly Glu Ser Glu
            515   520   525

Ala Ser Arg Pro Pro Arg Val His Gly Pro Pro Thr Glu Thr Leu Pro
            530   535   540

Thr Pro Arg Glu Arg Asn Leu Ala Ser Pro Ser Pro Ser Thr Leu Val
545   550   555   560

Glu Ala Arg Glu Val Gly Glu Ala Thr Gly Gly Pro Glu Leu Ser Gly
            565   570   575

Val Pro Arg Gly Glu Ser Glu Glu Thr Gly Ser Ser Glu Gly Ala Pro
            580   585   590

Ser Leu Leu Pro Ala Thr Arg Ala Pro Glu Gly Thr Arg Glu Leu Glu
        595   600   605

Ala Pro Ser Glu Asp Asn Ser Gly Arg Thr Ala Pro Ala Gly Thr Ser
        610   615   620

Val Gln Ala Gln Pro Val Leu Pro Thr Asp Ser Ala Ser Arg Gly Gly
625   630   635   640

Val Ala Val Val Pro Ala Ser Gly Asn Ser Ala Gln Gly Ser Thr Ala
            645   650   655

Leu Ser Ile Leu Leu Leu Phe Phe Pro Leu Gln Leu Trp Val Thr
            660   665   670

<210> 332
<211> 22
<212> PRT
<213> Homo sapiens

<400> 332
Met Ala Gln Leu Phe Leu Pro Leu Leu Ala Ala Leu Val Leu Ala Gln
  1   5   10   15

Ala Pro Ala Ala Leu Ala
            20

<210> 333
<211> 649
<212> PRT
<213> Homo sapiens

<400> 333
Asp Val Leu Glu Gly Asp Ser Ser Glu Asp Arg Ala Phe Arg Val Arg
  1   5   10   15

Ile Ala Gly Asp Ala Pro Leu Gln Gly Val Leu Gly Gly Ala Leu Thr
            20   25   30

Ile Pro Cys His Val His Tyr Leu Arg Pro Pro Ser Arg Arg Ala
            35   40   45

Val Leu Gly Ser Pro Arg Val Lys Trp Thr Phe Leu Ser Arg Gly Arg
     50   55   60

Glu Ala Glu Val Leu Val Ala Arg Gly Val Arg Val Lys Val Asn Glu
 65   70   75   80

Ala Tyr Arg Phe Arg Val Ala Leu Pro Ala Tyr Pro Ala Ser Leu Thr
            85   90   .   95

Asp Val Ser Leu Ala Leu Ser Glu Leu Arg Pro Asn Asp Ser Gly Ile
            100   105   110

Tyr Arg Cys Glu Val Gln His Gly Ile Asp Asp Ser Ser Asp Ala Val

215

```
            115                    120                     125

Glu Val Lys Val Lys Gly Val Val Phe Leu Tyr Arg Glu Gly Ser Ala
    130                 135                 140

Arg Tyr Ala Phe Ser Phe Ser Gly Ala Gln Glu Ala Cys Ala Arg Ile
145                 150                 155                 160

Gly Ala His Ile Ala Thr Pro Glu Gln Leu Tyr Ala Ala Tyr Leu Gly
                165                 170                 175

Gly Tyr Glu Gln Cys Asp Ala Gly Trp Leu Ser Asp Gln Thr Val Arg
                180                 185                 190

Tyr Pro Ile Gln Thr Pro Arg Glu Ala Cys Tyr Gly Asp Met Asp Gly
        195                 200                 205

Phe Pro Gly Val Arg Asn Tyr Gly Val Val Asp Pro Asp Asp Leu Tyr
    210                 215                 220

Asp Val Tyr Cys Tyr Ala Glu Asp Leu Asn Gly Glu Leu Phe Leu Gly
225                 230                 235                 240

Asp Pro Pro Glu Lys Leu Thr Leu Glu Glu Ala Arg Ala Tyr Cys Gln
                245                 250                 255

Glu Arg Gly Ala Glu Ile Ala Thr Thr Gly Gln Leu Tyr Ala Ala Trp
            260                 265                 270

Asp Gly Gly Leu Asp His Cys Ser Pro Gly Trp Leu Ala Asp Gly Ser
        275                 280                 285

Val Arg Tyr Pro Ile Val Thr Pro Ser Gln Arg Cys Gly Gly Gly Leu
    290                 295                 300

Pro Gly Val Lys Thr Leu Phe Leu Phe Pro Asn Gln Thr Gly Phe Pro
305                 310                 315                 320

Asn Lys His Ser Arg Phe Asn Val Tyr Cys Phe Arg Asp Ser Ala Gln
                325                 330                 335

Pro Ser Ala Ile Pro Glu Ala Ser Asn Pro Ala Ser Asn Pro Ala Ser
            340                 345                 350

Asp Gly Leu Glu Ala Ile Val Thr Val Thr Glu Thr Leu Glu Glu Leu
        355                 360                 365

Gln Leu Pro Gln Glu Ala Thr Glu Ser Glu Ser Arg Gly Ala Ile Tyr
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216

Ser Ile Pro Ile Met Glu Asp Gly Gly Gly Gly Ser Ser Thr Pro Glu
385   390   395   400

Asp Pro Ala Glu Ala Pro Arg Thr Leu Leu Glu Phe Glu Thr Gln Ser
                405   410   415

Met Val Pro Pro Thr Gly Phe Ser Glu Glu Glu Gly Lys Ala Leu Glu
            420   425   430

Glu Glu Glu Lys Tyr Glu Asp Glu Glu Glu Lys Glu Glu Glu Glu Glu
        435   440   445

Glu Glu Glu Val Glu Asp Glu Ala Leu Trp Ala Trp Pro Ser Glu Leu
        450   455   460

Ser Ser Pro Gly Pro Glu Ala Ser Leu Pro Thr Glu Pro Ala Ala Gln
465   470   475   480

Glu Lys Ser Leu Ser Gln Ala Pro Ala Arg Ala Val Leu Gln Pro Gly
            485   490   495

Ala Ser Pro Leu Pro Asp Gly Glu Ser Glu Ala Ser Arg Pro Pro Arg
            500   505   510

Val His Gly Pro Pro Thr Glu Thr Leu Pro Thr Pro Arg Glu Arg Asn
            515   520   525

Leu Ala Ser Pro Ser Pro Ser Thr Leu Val Glu Ala Arg Glu Val Gly
        530   535   540

Glu Ala Thr Gly Gly Pro Glu Leu Ser Gly Val Pro Arg Gly Glu Ser
545   550   555   560

Glu Glu Thr Gly Ser Ser Glu Gly Ala Pro Ser Leu Leu Pro Ala Thr
            565   570   575

Arg Ala Pro Glu Gly Thr Arg Glu Leu Glu Ala Pro Ser Glu Asp Asn
            580   585   590

Ser Gly Arg Thr Ala Pro Ala Gly Thr Ser Val Gln Ala Gln Pro Val
        595   600   605

Leu Pro Thr Asp Ser Ala Ser Arg Gly Gly Val Ala Val Val Pro Ala
        610   615   620

Ser Gly Asn Ser Ala Gln Gly Ser Thr Ala Leu Ser Ile Leu Leu Leu

217

Phe Phe Pro Leu Gln Leu Trp Val Thr
                    645

<210> 334
<211> 456
<212> PRT
<213> Pigeon pea witches'-broom phytoplasma

<400> 334
Met Asn Leu Asp Ile His Cys Glu Gln Leu Ser Asp Ala Arg Trp Thr
 1   5   10   15

Glu Leu Leu Pro Leu Leu Gln Gln Tyr Glu Val Val Arg Leu Asp Asp
             20   25   30

Cys Gly Leu Thr Glu Glu His Cys Lys Asp Ile Gly Ser Ala Leu Arg
         35   40   45

Ala Asn Pro Ser Leu Thr Glu Leu Cys Leu Arg Thr Asn Glu Leu Gly
     50   55   60

Asp Ala Gly Val His Leu Val Leu Gln Gly Leu Gln Ser Pro Thr Cys
 65   70   75   80

Lys Ile Gln Lys Leu Ser Leu Gln Asn Cys Ser Leu Thr Glu Ala Gly
                 85   90   95

Cys Gly Val Leu Pro Ser Thr Leu Arg Ser Leu Pro Thr Leu Arg Glu
             100   105   110

Leu His Leu Ser Asp Asn Pro Leu Gly Asp Ala Gly Leu Arg Leu Leu
         115   120   125

Cys Glu Gly Leu Leu Asp Pro Gln Cys His Leu Glu Lys Leu Gln Leu
     130   135   140

Glu Tyr Cys Arg Leu Thr Ala Ala Ser Cys Glu Pro Leu Ala Ser Val
145   150   155   160

Leu Arg Ala Thr Arg Ala Leu Lys Glu Leu Thr Val Ser Asn Asn Asp
                 165   170   175

Ile Gly Glu Ala Gly Ala Arg Val Leu Gly Gln Gly Leu Ala Asp Ser
             180   185   190

Ala Cys Gln Leu Glu Thr Leu Arg Leu Glu Asn Cys Gly Leu Thr Pro
        195   200   205

Ala Asn Cys Lys Asp Leu Cys Gly Ile Val Ala Ser Gln Ala Ser Leu
        210   215   220

Arg Glu Leu Asp Leu Gly Ser Asn Gly Leu Gly Asp Ala Gly Ile Ala
225   230   235   240

Glu Leu Cys Pro Gly Leu Leu Ser Pro Ala Ser Arg Leu Lys Thr Leu
                245   250   255

Trp Leu Trp Glu Cys Asp Ile Thr Ala Ser Gly Cys Arg Asp Leu Cys
            260   265   270

Arg Val Leu Gln Ala Lys Glu Thr Leu Lys Glu Leu Ser Leu Ala Gly
        275   280   285

Asn Lys Leu Gly Asp Glu Gly Ala Arg Leu Leu Cys Glu Ser Leu Leu
        290   295   300

Gln Pro Gly Cys Gln Leu Glu Ser Leu Trp Val Lys Ser Cys Ser Leu
305   310   315   320

Thr Ala Ala Cys Cys Gln His Val Ser Leu Met Leu Thr Gln Asn Lys
            325   330   335

His Leu Leu Glu Leu Gln Leu Ser Ser Asn Lys Leu Gly Asp Ser Gly
        340   345   350

Ile Gln Glu Leu Cys Gln Ala Leu Ser Gln Pro Gly Thr Thr Leu Arg
        355   360   365

Val Leu Cys Leu Gly Asp Cys Glu Val Thr Asn Ser Gly Cys Ser Ser
        370   375   380

Leu Ala Ser Leu Leu Leu Ala Asn Arg Ser Leu Arg Glu Leu Asp Leu
385   390   395   400

Ser Asn Asn Cys Val Gly Asp Pro Gly Val Leu Gln Leu Leu Gly Ser
            405   410   415

Leu Glu Gln Pro Gly Cys Ala Leu Glu Gln Leu Val Leu Tyr Asp Thr
        420   425   430

Tyr Trp Thr Glu Glu Val Glu Asp Arg Leu Gln Ala Leu Glu Gly Ser
        435   440   445

219

Lys Pro Gly Leu Arg Val Ile Ser
    450   455

<210> 335
<211> 834
<212> PRT
<213> Mus sp.

<400> 335
Met Ala Pro His Trp Ala Val Trp Leu Leu Ala Ala Gly Leu Trp Gly
  1   5   10   15

Leu Gly Ile Gly Ala Glu Met Trp Trp Asn Leu Val Pro Arg Lys Thr
            20   25   30

Val Ser Ser Gly Glu Leu Val Thr Val Val Arg Arg Phe Ser Gln Thr
            35   40   45

Gly Ile Gln Asp Phe Leu Thr Leu Thr Leu Thr Glu His Ser Gly Leu
    50   55   60

Leu Tyr Val Gly Ala Arg Glu Ala Leu Phe Ala Phe Ser Val Glu Ala
 65   70   75   80

Leu Glu Leu Gln Gly Ala Ile Ser Trp Glu Ala Pro Ala Glu Lys Lys
                85   90   95

Ile Glu Cys Thr Gln Lys Gly Lys Ser Asn Gln Thr Glu Cys Phe Asn
            100   105   110

Phe Ile Arg Phe Leu Gln Pro Tyr Asn Ser Ser His Leu Tyr Val Cys
            115   120   125

Gly Thr Tyr Ala Phe Gln Pro Lys Cys Thr Tyr Ile Asn Met Leu Thr
    130   135   140

Phe Thr Leu Asp Arg Ala Glu Phe Glu Asp Gly Lys Gly Lys Cys Pro
145   150   155   160

Tyr Asp Pro Ala Lys Gly His Thr Gly Leu Leu Val Asp Gly Glu Leu
                165   170   175

Tyr Ser Ala Thr Leu Asn Asn Phe Leu Gly Thr Glu Pro Val Ile Leu
            180   185   190

Arg Tyr Met Gly Thr His His Ser Ile Lys Thr Glu Tyr Leu Ala Phe
            195   200   205

220

Trp Leu Asn Glu Pro His Phe Val Gly Ser Ala Phe Val Pro Glu Ser
    210   215   220

Val Gly Ser Phe Thr Gly Asp Asp Asp Lys Ile Tyr Phe Phe Phe Ser
225   230   235   240

Glu Arg Ala Val Glu Tyr Asp Cys Tyr Ser Glu Gln Val Val Ala Arg
                245   250   255

Val Ala Arg Val Cys Lys Gly Asp Met Gly Gly Ala Arg Thr Leu Gln
                260   265   270

Lys Lys Trp Thr Thr Phe Leu Lys Ala Arg Leu Val Cys Ser Ala Pro
            275   280   285

Asp Trp Lys Val Tyr Phe Asn Gln Leu Lys Ala Val His Thr Leu Arg
    290   295   300

Gly Ala Ser Trp His Asn Thr Thr Phe Phe Gly Val Phe Gln Ala Arg
305   310   315   320

Trp Gly Asp Met Asp Leu Ser Ala Val Cys Glu Tyr Gln Leu Glu Gln
                325   330   335

Ile Gln Gln Val Phe Glu Gly Pro Tyr Lys Glu Tyr Ser Glu Gln Ala
                340   345   350

Gln Lys Trp Ala Arg Tyr Thr Asp Pro Val Pro Ser Pro Arg Pro Gly
            355   360   365

Ser Cys Ile Asn Asn Trp His Arg Asp Asn Gly Tyr Thr Ser Ser Leu
    370   375   380

Glu Leu Pro Asp Asn Thr Leu Asn Phe Ile Lys Lys His Pro Leu Met
385   390   395   400

Glu Asp Gln Val Lys Pro Arg Leu Gly Arg Pro Leu Leu Val Lys Lys
                405   410   415

Asn Thr Asn Phe Thr His Val Val Ala Asp Arg Val Pro Gly Leu Asp
                420   425   430

Gly Ala Thr Tyr Thr Val Leu Phe Ile Gly Thr Gly Asp Gly Trp Leu
            435   440   445

Leu Lys Ala Val Ser Leu Gly Pro Trp Ile His Met Val Glu Glu Leu
    450   455   460

221

Gln Val Phe Asp Gln Glu Pro Val Glu Ser Leu Val Leu Ser Gln Ser
465   470   475   480

Lys Lys Val Leu Phe Ala Gly Ser Arg Ser Gln Leu Val Gln Leu Ser
                485   490   495

Leu Ala Asp Cys Thr Lys Tyr Arg Phe Cys Val Asp Cys Val Leu Ala
                500   505   510

Arg Asp Pro Tyr Cys Ala Trp Asn Val Asn Thr Ser Arg Cys Val Ala
                515   520   525

Thr Thr Ser Gly Arg Ser Gly Ser Phe Leu Val Gln His Val Ala Asn
        530   535   540

Leu Asp Thr Ser Lys Met Cys Asn Gln Tyr Gly Ile Lys Lys Val Arg
545   550   555   560

Ser Ile Pro Lys Asn Ile Thr Val Val Ser Gly Thr Asp Leu Val Leu
                565   570   575

Pro Cys His Leu Ser Ser Asn Leu Ala His Ala His Trp Thr Phe Gly
                580   585   590

Ser Gln Asp Leu Pro Ala Glu Gln Pro Gly Ser Phe Leu Tyr Asp Thr
                595   600   605

Gly Leu Gln Ala Leu Val Val Met Ala Ala Gln Ser Arg His Ser Gly
        610   615   620

Pro Tyr Arg Cys Tyr Ser Glu Glu Gln Gly Thr Arg Leu Ala Ala Glu
625   630   635   640

Ser Tyr Leu Val Ala Val Val Ala Gly Ser Ser Val Thr Leu Glu Ala
                645   650   655

Arg Ala Pro Leu Glu Asn Leu Gly Leu Val Trp Leu Ala Val Val Ala
                660   665   670

Leu Gly Ala Val Cys Leu Val Leu Leu Leu Val Leu Ser Leu Arg
                675   680   685

Arg Arg Leu Arg Glu Glu Leu Glu Lys Gly Ala Lys Ala Ser Glu Arg
        690   695   700

Thr Leu Val Tyr Pro Leu Glu Leu Pro Lys Glu Pro Ala Ser Pro Pro
705   710   715   720

222

Phe Arg Pro Gly Pro Glu Thr Asp Glu Lys Leu Trp Asp Pro Val Gly
              725   730   735

Tyr Tyr Tyr Ser Asp Gly Ser Leu Lys Ile Val Pro Gly His Ala Arg
             740   745   750

Cys Gln Pro Gly Gly Gly Pro Pro Ser Pro Pro Pro Gly Ile Pro Gly
         755   760   765

Gln Pro Leu Pro Ser Pro Thr Arg Leu His Leu Gly Gly Gly Arg Asn
     770   775   780

Ser Asn Ala Asn Gly Tyr Val Arg Leu Gln Leu Gly Gly Glu Asp Arg
785   790   795   800

Gly Gly Ser Gly His Pro Leu Pro Glu Leu Ala Asp Glu Leu Arg Arg
              805   810   815

Lys Leu Gln Gln Arg Gln Pro Leu Pro Asp Ser Asn Pro Glu Glu Ser
         820   . 825   830

Ser Val

<210> 336
<211> 3503
<212> DNA
<213> Mus sp.

<400> 336
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gcacggacgc tgcagaagaa atggacgacg ttcctgaagg ctcggttggt gtgctcagcc 960

223

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<210> 337
<400> 337
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224

<210> 338
<400> 338
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<210> 339
<211> 348
<212> PRT
<213> Cricetulus griseus

<400> 339

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Met His Leu Pro Pro Ala Ala Ala Val Gly Leu Leu Leu Leu Leu Leu
  1               5                  10                  15

Pro Pro Pro Ala Arg Val Ala Ser Arg Lys Pro Thr Met Cys Gln Arg
             20                  25                  30

Cys Arg Ala Leu Val Asp Lys Phe Asn Gln Gly Met Ala Asn Thr Ala
         35                  40                  45

Arg Lys Asn Phe Gly Gly Gly Asn Thr Ala Trp Glu Glu Lys Ser Leu
     50                  55                  60

Ser Lys Tyr Glu Phe Ser Glu Ile Arg Leu Leu Glu Ile Met Glu Gly
 65                  70                  75                  80

Leu Cys Asp Ser Asn Asp Phe Glu Cys Asn Gln Leu Leu Glu Gln His
                 85                  90                  95

Glu Glu Gln Leu Glu Ala Trp Trp Gln Thr Leu Lys Lys Glu Cys Pro
             100                 105                 110

Asn Leu Phe Glu Trp Phe Cys Val His Thr Leu Lys Ala Cys Cys Leu
         115                 120                 125

Pro Gly Thr Tyr Gly Pro Asp Cys Gln Glu Cys Gln Gly Gly Ser Gln
     130                 135                 140

Arg Pro Cys Ser Gly Asn Gly His Cys Asp Gly Asp Gly Ser Arg Gln
145                 150                 155                 160

Gly Asp Gly Ser Cys Gln Cys His Val Gly Tyr Lys Gly Pro Leu Cys
                 165                 170                 175

Ile Asp Cys Met Asp Gly Tyr Phe Ser Leu Leu Arg Asn Glu Thr His
             180                 185                 190
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Ser Phe Cys Thr Ala Cys Asp Glu Ser Cys Lys Thr Cys Ser Gly Pro
        195   200   205

Thr Asn Lys Gly Cys Val Glu Cys Glu Val Gly Trp Thr Arg Val Glu
        210   215   220

Asp Ala Cys Val Asp Val Asp Glu Cys Ala Ala Glu Thr Pro Pro Cys
225   230   235   240

Ser Asn Val Gln Tyr Cys Glu Asn Val Asn Gly Ser Tyr Thr Cys Glu
                245   250   255

Glu Cys Asp Ser Thr Cys Val Gly Cys Thr Gly Lys Gly Pro Ala Asn
            260   265   270

Cys Lys Glu Cys Ile Ser Gly Tyr Ser Lys Gln Lys Gly Glu Cys Ala
            275   280   285

Asp Ile Asp Glu Cys Ser Leu Glu Thr Lys Val Cys Lys Lys Glu Asn
        290   295   300

Glu Asn Cys Tyr Asn Thr Pro Gly Ser Phe Val Cys Val Cys Pro Glu
305   310   315   320

Gly Phe Glu Glu Asp Arg Arg Cys Leu Cys Thr Asp Ser Arg Arg Arg
                325   330   335

Ser Gly Arg Gly Lys Ser His Thr Ala Thr Leu Pro
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<210> 340
<211> 1399
<212> DNA
<213> Cricetulus griseus

<400> 340
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226

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<210> 341
<211> 528
<212> PRT
<213> Homo sapiens

<400> 341
Met Ala Gln Leu Phe Leu Pro Leu Leu Ala Ala Leu Val Leu Ala Gln
 1               5                  10                  15


Ala Pro Ala Ala Leu Ala Asp Val Leu Glu Gly Asp Ser Ser Glu Asp
            20                  25                  30


Arg Ala Phe Arg Val Arg Ile Ala Gly Asp Ala Pro Leu Gln Gly Val
        35                  40                  45


Leu Gly Gly Ala Leu Thr Ile Pro Cys His Val His Tyr Leu Arg Pro
    50                  55                  60


Pro Pro Ser Arg Arg Ala Val Leu Gly Ser Pro Arg Val Lys Trp Thr
65                  70                  75                  80


Phe Leu Ser Arg Gly Arg Glu Ala Glu Val Leu Val Ala Arg Gly Val
                85                  90                  95


Arg Val Lys Val Asn Glu Ala Tyr Arg Phe Arg Val Ala Leu Pro Ala
            100                 105                 110


Tyr Pro Ala Ser Leu Thr Asp Val Ser Leu Ala Leu Ser Glu Leu Arg
        115                 120                 125


Pro Asn Asp Ser Gly Ile Tyr Arg Cys Glu Val Gln His Gly Ile Asp
    130                 135                 140
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227

Asp Ser Ser Asp Ala Val Glu Ser Ser Gln Arg Tyr Pro Ile Gln Thr
145   150   155   160

Pro Arg Glu Ala Cys Tyr Gly Asp Met Asp Gly Phe Pro Gly Val Arg
                 165   170   175

Asn Tyr Gly Val Val Asp Pro Asp Asp Leu Tyr Asp Val Tyr Cys Tyr
             180   185   190

Ala Glu Asp Leu Asn Gly Glu Leu Phe Leu Gly Asp Pro Pro Glu Lys
         195   200   205

Leu Thr Leu Glu Glu Ala Arg Ala Tyr Cys Gln Glu Arg Gly Ala Glu
     210   215   220

Ile Ala Thr Thr Gly Gln Leu Tyr Ala Ala Trp Asp Gly Gly Leu Asp
225   230   235   240

His Cys Ser Pro Gly Trp Leu Ala Asp Gly Ser Val Arg Tyr Pro Ile
                 245   250   255

Val Thr Pro Ser Gln Arg Cys Gly Gly Gly Leu Pro Gly Val Lys Thr
                 260   265   270

Leu Phe Leu Phe Pro Asn Gln Thr Gly Phe Pro Asn Lys His Ser Arg
         275   280   285

Phe Asn Val Tyr Cys Phe Arg Asp Ser Ala Gln Leu Leu Pro Ser Leu
     290   295   300

Arg Pro Pro Thr Gln Pro Pro Thr Gln Leu Asp Gly Leu Glu Ala Ile
305   310   315   320

Val Thr Val Thr Glu Thr Leu Glu Glu Leu Gln Leu Pro Gln Glu Ala
             325   330   335

Thr Glu Ser Glu Ser Arg Gly Ala Ile Tyr Ser Ile Pro Ile Met Glu
         340   345   350

Asp Gly Gly Gly Gly Ser Ser Thr Pro Glu Asp Pro Ala Glu Ala Pro
         355   360   365

Arg Thr Leu Leu Glu Phe Glu Thr Gln Ser Met Val Pro Pro Thr Gly
     370   375   380

Phe Ser Glu Glu Glu Gly Lys Ala Leu Glu Glu Glu Glu Lys Tyr Glu
385   390   395   400

228

Asp Glu Glu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu Val Glu Asp
                405   410   415

Glu Ala Leu Trp Ala Trp Pro Ser Glu Leu Ser Ser Pro Gly Pro Glu
            420   425   430

Ala Ser Leu Pro Thr Glu Pro Ala Ala Gln Glu Glu Ser Leu Ser Gln
            435   440   445

Ala Pro Ala Arg Ala Val Leu Gln Pro Gly Ala Ser Pro Leu Pro Asp
        450   455   460

Gly Glu Ser Glu Ala Ser Arg Pro Pro Arg Val His Gly Pro Pro Thr
465   470   475   480

Glu Thr Leu Pro Thr Pro Arg Glu Arg Asn Leu Ala Ser Pro Ser Pro
            485   490   495

Ser Thr Leu Val Glu Ala Arg Glu Val Gly Glu Ala Thr Gly Gly Pro
            500   505   510

Glu Leu Ser Gly Val Pro Arg Gly Gly Ala Arg Thr Gln Phe Ala Leu
            515   520   525

<210> 342
<211> 883
<212> PRT
<213> Mus sp.

<400> 342
Met Ile Pro Leu Leu Leu Ser Leu Leu Ala Ala Leu Val Leu Thr Gln
  1   5   10   15

Ala Pro Ala Ala Leu Ala Asp Asp Leu Lys Glu Asp Ser Ser Glu Asp
            20   25   30

Arg Ala Phe Arg Val Arg Ile Gly Ala Ala Gln Leu Arg Gly Val Leu
            35   40   45

Gly Gly Ala Leu Ala Ile Pro Cys His Val His His Leu Arg Pro Pro
    50   55   60

Arg Ser Arg Arg Ala Ala Pro Gly Phe Pro Arg Val Lys Trp Thr Phe

229

Leu Ser Gly Asp Arg Glu Val Glu Val Leu Val Ala Arg Gly Leu Arg
                85   90   95

Val Lys Val Asn Glu Ala Tyr Arg Phe Arg Val Ala Leu Pro Ala Tyr
                100   105   110

Pro Ala Ser Leu Thr Asp Val Ser Leu Val Leu Ser Glu Leu Arg Pro
                115   120   125

Asn Asp Ser Gly Val Tyr Arg Cys Glu Val Gln His Gly Ile Asp Asp
        130   135   140

Ser Ser Asp Ala Val Glu Val Lys Val Lys Gly Val Val Phe Leu Tyr
145   150   155   160

Arg Glu Gly Ser Ala Arg Tyr Ala Phe Ser Phe Ala Gly Ala Gln Glu
                165   170   175

Ala Cys Ala Arg Ile Gly Ala Arg Ile Ala Thr Pro Glu Gln Leu Tyr
                180   185   190

Ala Ala Tyr Leu Gly Gly Tyr Glu Gln Cys Asp Ala Gly Trp Leu Ser
                195   200   205

Asp Gln Thr Val Arg Tyr Pro Ile Gln Asn Pro Arg Glu Ala Cys Ser
        210   215   220

Gly Asp Met Asp Gly Tyr Pro Gly Val Arg Asn Tyr Gly Val Val Gly
225   230   235   240

Pro Asp Asp Leu Tyr Asp Val Tyr Cys Tyr Ala Glu Asp Leu Asn Gly
                245   250   255

Glu Leu Phe Leu Gly Ala Pro Pro Ser Lys Leu Thr Trp Glu Glu Ala
                260   265   270

Arg Asp Tyr Cys Leu Glu Arg Gly Ala Gln Ile Ala Ser Thr Gly Gln
                275   280   285

Leu Tyr Ala Ala Trp Asn Gly Gly Leu Asp Arg Cys Ser Pro Gly Trp
        290   295   300

Leu Ala Asp Gly Ser Val Arg Tyr Pro Ile Ile Thr Pro Ser Gln Arg
305   310   315   320

Cys Gly Gly Gly Leu Pro Gly Val Lys Thr Leu Phe Leu Phe Pro Asn

230

Gln Thr Gly Phe Pro Ser Lys Gln Asn Arg Phe Asn Val Tyr Cys Phe
            340   345   350

Arg Asp Ser Ala His Pro Ser Ala Ser Ser Glu Ala Ser Ser Pro Ala
            355   360   365

Ser Asp Gly Leu Glu Ala Ile Val Thr Val Thr Glu Lys Leu Glu Glu
    370   375   380

Leu Gln Leu Pro Gln Glu Ala Met Glu Ser Glu Ser Arg Gly Ala Ile
385   390   395   400

Tyr Ser Ile Pro Ile Ser Glu Asp Gly Gly Gly Ser Ser Thr Pro
            405   410   415

Glu Asp Pro Ala Glu Ala Pro Arg Thr Pro Leu Glu Ser Glu Thr Gln
            420   425   430

Ser Ile Ala Pro Pro Thr Glu Ser Ser Glu Glu Glu Gly Val Ala Leu
            435   440   445

Glu Glu Glu Glu Arg Phe Lys Asp Leu Glu Ala Leu Glu Glu Glu Lys
    450   455   460

Glu Gln Glu Asp Leu Trp Val Trp Pro Arg Glu Leu Ser Ser Pro Leu
465   470   475   480

Pro Thr Gly Ser Glu Thr Glu His Ser Leu Ser Gln Val Ser Pro Pro
            485   490   495

Ala Gln Ala Val Leu Gln Leu Asp Ala Ser Pro Ser Pro Gly Pro Pro
            500   505   510

Arg Phe Arg Gly Pro Pro Ala Glu Thr Leu Leu Pro Pro Arg Glu Trp
            515   520   525

Ser Ala Thr Ser Thr Pro Gly Gly Ala Arg Glu Val Gly Gly Glu Thr
    530   535   540

Gly Ser Pro Glu Leu Ser Gly Val Pro Arg Glu Ser Glu Glu Ala Gly
545   550   555   560

Ser Ser Ser Leu Glu Asp Gly Pro Ser Leu Leu Pro Ala Thr Trp Ala
            565   570   575

Pro Val Gly Pro Arg Glu Leu Glu Thr Pro Ser Glu Glu Lys Ser Gly

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              580                      585                        590

Arg Thr Val Leu Ala Gly Thr Ser Val Gln Ala Gln Pro Val Leu Pro
        595                  600                  605

Thr Asp Ser Ala Ser His Gly Gly Val Ala Val Ala Pro Ser Ser Gly
        610                  615                  620

Asp Cys Ile Pro Ser Pro Cys His Asn Gly Gly Thr Cys Leu Glu Glu
625                  630                  635                  640

Lys Glu Gly Phe Arg Cys Leu Cys Leu Pro Gly Tyr Gly Gly Asp Leu
                645                  650                  655

Cys Asp Val Gly Leu His Phe Cys Ser Pro Gly Trp Glu Ala Phe Gln
                660                  665                  670

Gly Ala Cys Tyr Lys His Phe Ser Thr Arg Arg Ser Trp Glu Glu Ala
                675                  680                  685

Glu Ser Gln Cys Arg Ala Leu Gly Ala His Leu Thr Ser Ile Cys Thr
        690                  695                  700

Pro Glu Glu Gln Asp Phe Val Asn Asp Arg Tyr Arg Glu Tyr Gln Trp
705                  710                  715                  720

Ile Gly Leu Asn Asp Arg Thr Ile Glu Gly Asp Phe Leu Trp Ser Asp
                725                  730                  735

Gly Ala Pro Leu Leu Tyr Glu Asn Trp Asn Pro Gly Gln Pro Asp Ser
                740                  745                  750

Tyr Phe Leu Ser Gly Glu Asn Cys Val Val Met Val Trp His Asp Gln
        755                  760                  765

Gly Gln Trp Ser Asp Val Pro Cys Asn Tyr His Leu Ser Tyr Thr Cys
        770                  775                  780

Lys Met Gly Leu Val Ser Cys Gly Pro Pro Pro Gln Leu Pro Leu Ala
785                  790                  795                  800

Gln Ile Phe Gly Arg Pro Arg Leu Arg Tyr Ala Val Asp Thr Val Leu
                805                  810                  815

Arg Tyr Arg Cys Arg Asp Gly Leu Ala Gln Arg Asn Leu Pro Leu Ile
                820                  825                  830

Arg Cys Gln Glu Asn Gly Leu Trp Glu Ala Pro Gln Ile Ser Cys Val

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Pro Arg Arg Pro Gly Arg Ala Leu Arg Ser Met Asp Ala Pro Glu Gly
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Pro Arg Gly Gln Leu Ser Arg His Arg Lys Ala Pro Leu Thr Pro Pro
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Ser Ser Leu

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<211> 3153
<212> DNA
<213> Mus sp.

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<222> (3043)

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<210> 351
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235

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<212> DNA
<213> Gerbil

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gaggacgcgg gactaccttc ctatgaacag gcagtagctc tgaccagaaa acacagtgtc 600
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<210> 353
<211> 225
<212> PRT
<213> Gerbil

<400> 353
Met Phe Leu Leu Leu Val Val Leu Ser Gln Leu Pro Arg Leu Thr Leu
 1               5                  10                  15


Ala Val Pro His Thr Arg Ser Leu Lys Asn Ser Glu His Ala Pro Glu
            20                  25                  30


Gly Val Phe Ala Ser Lys Lys Ala Ala Ser Ile Phe Met His Arg Arg
         35                  40                  45
```

236

Leu Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu
    50   55   60

Glu Arg Glu Cys Tyr Glu Glu Phe Cys Ser Tyr Glu Glu Ala Arg Glu
 65   70   75   80

Ile Leu Gly Asp Asn Glu Glu Met Ile Thr Phe Trp Arg Glu Tyr Ser
             .   85   90   95

Val Lys Gly Pro Thr Thr Arg Ser Asp Val Asn Lys Glu Lys Ile Asp
            100   105   110

Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val
            115   120   125

Val Phe Gly Leu Leu Gly Tyr Tyr Leu Cys Ile Thr Lys Cys Asn Arg
        130   135   140

Gln Pro Tyr Gln Gly Ser Ser Ala Val Tyr Thr Arg Arg Thr Arg His
145   150   155   160

Thr Pro Ser Ile Ile Phe Arg Thr His Glu Glu Ala Val Leu Ser Pro
                165   170   175

Ser Ser Ser Ser Glu Asp Ala Gly Leu Pro Ser Tyr Glu Gln Ala Val
            180   185   190

Ala Leu Thr Arg Lys His Ser Val Ser Pro Pro Pro Pro Tyr Pro Gly
        195   200   205

Pro Ala Lys Gly Phe Arg Val Phe Lys Lys Ser Met Ser Leu Pro Ser
    210   215   220

His
225

<210> 354
<211> 17
<212> PRT
<213> Gerbil

<400> 354
Met Phe Leu Leu Leu Val Val Leu Ser Gln Leu Pro Arg Leu Thr Leu
  1   5   10   15

Ala

237

<210> 355
<211> 208
<212> PRT
<213> Gerbil

<400> 355
Val Pro His Thr Arg Ser Leu Lys Asn Ser Glu His Ala Pro Glu Gly
 1   5   10   15

Val Phe Ala Ser Lys Lys Ala Ala Ser Ile Phe Met His Arg Arg Leu
                20   25   30

Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu Glu
            35   40   45

Arg Glu Cys Tyr Glu Glu Phe Cys Ser Tyr Glu Glu Ala Arg Glu Ile
        50   55   60

Leu Gly Asp Asn Glu Glu Met Ile Thr Phe Trp Arg Glu Tyr Ser Val
65   70   75   80

Lys Gly Pro Thr Thr Arg Ser Asp Val Asn Lys Glu Lys Ile Asp Val
                85   90   95

Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val Val
            100   105   110

Phe Gly Leu Leu Gly Tyr Tyr Leu Cys Ile Thr Lys Cys Asn Arg Gln
            115   120   125

Pro Tyr Gln Gly Ser Ser Ala Val Tyr Thr Arg Arg Thr Arg His Thr
    130   135   140

Pro Ser Ile Ile Phe Arg Thr His Glu Glu Ala Val Leu Ser Pro Ser
145   150   155   160

Ser Ser Ser Glu Asp Ala Gly Leu Pro Ser Tyr Glu Gln Ala Val Ala
                165   170   175

Leu Thr Arg Lys His Ser Val Ser Pro Pro Pro Tyr Pro Gly Pro
            180   185   190

Ala Lys Gly Phe Arg Val Phe Lys Lys Ser Met Ser Leu Pro Ser His
        195   200   205

238

<210> 356
<211> 95
<212> PRT
<213> Gerbil

<400> 356
Val Pro His Thr Arg Ser Leu Lys Asn Ser Glu His Ala Pro Glu Gly
1   5   10   15

Val Phe Ala Ser Lys Lys Ala Ala Ser Ile Phe Met His Arg Arg Leu
            20   25   30

Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu Glu
        35   40   45

Arg Glu Cys Tyr Glu Glu Phe Cys Ser Tyr Glu Glu Ala Arg Glu Ile
    50   55   60

Leu Gly Asp Asn Glu Glu Met Ile Thr Phe Trp Arg Glu Tyr Ser Val
65   70   75   80

Lys Gly Pro Thr Thr Arg Ser Asp Val Asn Lys Glu Lys Ile Asp
                85   90   95

<210> 357
<211> 25
<212> PRT
<213> Gerbil

<400> 357
Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val
1   5   10   15

Val Phe Gly Leu Leu Gly Tyr Tyr Leu
            20   25

<210> 358
<211> 88
<212> PRT
<213> Gerbil

<400> 358

239

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Cys Ile Thr Lys Cys Asn Arg Gln Pro Tyr Gln Gly Ser Ser Ala Val
 1               5                  10                 15

Tyr Thr Arg Arg Thr Arg His Thr Pro Ser Ile Ile Phe Arg Thr His
            20                  25                 30

Glu Glu Ala Val Leu Ser Pro Ser Ser Ser Ser Glu Asp Ala Gly Leu
        35                  40                  45

Pro Ser Tyr Glu Gln Ala Val Ala Leu Thr Arg Lys His Ser Val Ser
    50                  55                  60

Pro Pro Pro Pro Tyr Pro Gly Pro Ala Lys Gly Phe Arg Val Phe Lys
 65                  70                  75                 80

Lys Ser Met Ser Leu Pro Ser His
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<210> 360
<400> 360
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<210> 361
<400> 361
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<210> 362
<211> 962
<212> DNA
<213> Mus sp.

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<210> 363
<211> 320
<212> PRT
<213> Mus sp.

<400> 363
Pro Phe Leu Phe Asn His Leu His Gly Leu Gly Leu Thr Arg Leu Arg
 1               5                   10                  15

Thr Leu Asp Leu Ser Ser Asn Trp Leu Lys His Ile Ser Ile Pro Glu
            20                  25                  30

Leu Ala Ala Leu Pro Thr Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn
        35                  40                  45

Asn Pro Leu Pro Cys Asp Cys Ser Leu Tyr His Leu Leu Arg Arg Trp
    50                  55                  60

His Gln Arg Gly Leu Ser Ala Leu His Asp Phe Glu Arg Glu Tyr Thr
65                  70                  75                  80

Cys Leu Val Phe Lys Val Ser Glu Ser Arg Val Arg Phe Phe Glu His
                85                  90                  95

Ser Arg Val Phe Lys Asn Cys Ser Val Ala Ala Ala Pro Gly Leu Glu
                100                 105                 110

Leu Pro Glu Glu Gln Leu His Ala Gln Val Gly Gln Ser Leu Arg Leu
        115                 120                 125

Phe Cys Asn Thr Ser Val Pro Ala Thr Arg Val Ala Trp Val Ser Pro
    130                 135                 140

Lys Asn Glu Leu Leu Val Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala
145                 150                 155                 160

Val Leu Ala Asp Gly Ser Leu Ala Ile Gly Arg Val Gln Glu Gln His
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241

Ala Gly Val Phe Val Cys Leu Ala Ser Gly Pro Arg Leu His His Asn
            180   185   190

Gln Thr Leu Glu Tyr Asn Val Ser Val Gln Lys Ala Arg Pro Glu Pro
            195   200   205

Glu Thr Phe Asn Thr Gly Phe Thr Thr Leu Leu Gly Cys Ile Val Gly
    210   215   220

Leu Val Leu Val Leu Leu Tyr Leu Phe Ala Pro Pro Cys Arg Gly Cys
225   230   235   240

Cys His Cys Cys Gln Arg Ala Cys Arg Asn Arg Cys Trp Pro Arg Ala
            245   250   255

Ser Ser Pro Leu Gln Glu Leu Ser Ala Gln Ser Ser Met Leu Ser Thr
            260   265   270

Thr Pro Pro Asp Ala Pro Ser Arg Lys Ala Ser Val His Lys His Val
            275   280   285

Val Phe Leu Glu Pro Gly Lys Lys Gly Leu Asn Gly Arg Val Gln Leu
    290   295   300

Ala Val Pro Pro Asp Ser Asp Leu Cys Asn Pro Met Gly Leu Gln Leu
305   310   315   320

<210> 364
<211> 16
<212> PRT
<213> Mus sp.

<400> 364
Pro Phe Leu Phe Asn His Leu His Gly Leu Gly Leu Thr Arg Leu Arg
  1   5   10   15

<210> 365
<211> 304
<212> PRT
<213> Mus sp.

<400> 365

Thr Leu Asp Leu Ser Ser Asn Trp Leu Lys His Ile Ser Ile Pro Glu
 1   5   10   15

Leu Ala Ala Leu Pro Thr Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn
            20   25   30

Asn Pro Leu Pro Cys Asp Cys Ser Leu Tyr His Leu Leu Arg Arg Trp
            35   40   45

His Gln Arg Gly Leu Ser Ala Leu His Asp Phe Glu Arg Glu Tyr Thr
        50   55   60

Cys Leu Val Phe Lys Val Ser Glu Ser Arg Val Arg Phe Phe Glu His
65   70   75   80

Ser Arg Val Phe Lys Asn Cys Ser Val Ala Ala Ala Pro Gly Leu Glu
                85   90   95

Leu Pro Glu Glu Gln Leu His Ala Gln Val Gly Gln Ser Leu Arg Leu
            100   105   110

Phe Cys Asn Thr Ser Val Pro Ala Thr Arg Val Ala Trp Val Ser Pro
        115   120   125

Lys Asn Glu Leu Leu Val Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala
    130   135   140

Val Leu Ala Asp Gly Ser Leu Ala Ile Gly Arg Val Gln Glu Gln His
145   150   155   160

Ala Gly Val Phe Val Cys Leu Ala Ser Gly Pro Arg Leu His His Asn
                165   170   175

Gln Thr Leu Glu Tyr Asn Val Ser Val Gln Lys Ala Arg Pro Glu Pro
            180   185   190

Glu Thr Phe Asn Thr Gly Phe Thr Thr Leu Leu Gly Cys Ile Val Gly
            195   200   205

Leu Val Leu Val Leu Leu Tyr Leu Phe Ala Pro Pro Cys Arg Gly Cys
    210   215   220

Cys His Cys Cys Gln Arg Ala Cys Arg Asn Arg Cys Trp Pro Arg Ala
225   230   235   240

Ser Ser Pro Leu Gln Glu Leu Ser Ala Gln Ser Ser Met Leu Ser Thr
            245   250   255

243

Thr Pro Pro Asp Ala Pro Ser Arg Lys Ala Ser Val His Lys His Val
          260   265   270

Val Phe Leu Glu Pro Gly Lys Lys Gly Leu Asn Gly Arg Val Gln Leu
          275   280   285

Ala Val Pro Pro Asp Ser Asp Leu Cys Asn Pro Met Gly Leu Gln Leu
          290   295   300

<210> 366
<211> 197
<212> PRT
<213> Mus sp.

<400> 366
Thr Leu Asp Leu Ser Ser Asn Trp Leu Lys His Ile Ser Ile Pro Glu
  1   5   10   15

Leu Ala Ala Leu Pro Thr Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn
          20   25   30

Asn Pro Leu Pro Cys Asp Cys Ser Leu Tyr His Leu Leu Arg Arg Trp
          35   40   45

His Gln Arg Gly Leu Ser Ala Leu His Asp Phe Glu Arg Glu Tyr Thr
      50   55   60

Cys Leu Val Phe Lys Val Ser Glu Ser Arg Val Arg Phe Phe Glu His
  65   70   75   80

Ser Arg Val Phe Lys Asn Cys Ser Val Ala Ala Ala Pro Gly Leu Glu
              85   90   95

Leu Pro Glu Glu Gln Leu His Ala Gln Val Gly Gln Ser Leu Arg Leu
          100   105   110

Phe Cys Asn Thr Ser Val Pro Ala Thr Arg Val Ala Trp Val Ser Pro
          115   120   125

Lys Asn Glu Leu Leu Val Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala
          130   135   140

Val Leu Ala Asp Gly Ser Leu Ala Ile Gly Arg Val Gln Glu Gln His

Ala Gly Val Phe Val Cys Leu Ala Ser Gly Pro Arg Leu His His Asn
                165   170   175

Gln Thr Leu Glu Tyr Asn Val Ser Val Gln Lys Ala Arg Pro Glu Pro
            180   185   190

Glu Thr Phe Asn Thr
        195

<210> 367
<211> 20
<212> PRT
<213> Mus sp.

<400> 367
Gly Phe Thr Thr Leu Leu Gly Cys Ile Val Gly Leu Val Leu Val Leu
  1   5   10   15

Leu Tyr Leu Phe
            20

<210> 368
<211> 87
<212> PRT
<213> Mus sp.

<400> 368
Ala Pro Pro Cys Arg Gly Cys Cys His Cys Cys Gln Arg Ala Cys Arg
  1   5   10   15

Asn Arg Cys Trp Pro Arg Ala Ser Ser Pro Leu Gln Glu Leu Ser Ala
                20   25   30

Gln Ser Ser Met Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Arg Lys
            35   40   45

Ala Ser Val His Lys His Val Val Phe Leu Glu Pro Gly Lys Lys Gly
        50   55   60

Leu Asn Gly Arg Val Gln Leu Ala Val Pro Pro Asp Ser Asp Leu Cys
  65   70   75   80

Asn Pro Met Gly Leu Gln Leu
                85

<210> 369
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR Primer

<400> 369
attattcaga aggatgtccc gtgg   24

<210> 370
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR Primer

<400> 370
cctcctgatt acctacaatg gtc   23

<210> 371
<211> 1656
<212> DNA
<213> Homo sapiens

<400> 371
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ctgctctccg ccgcggcgct cacgctggcg gcccggcccg cgcctagccc cggcctcggc 120
cccggacccg agtgtttcac agccaatggt gcggattata ggggaacaca gaactggaca 180
gcactacaag gcgggaagcc atgtctgttt tggaacgaga ctttccagca tccatacaac 240
actctgaaat accccaacgg ggaggggggc ctgggtgagc acaactattg cagaaatcca 300
gatggagacg tgagcccctg gtgctatgtg gcagagcacg aggatggtgt ctactggaag 360
tactgtgaga tacctgcttg ccagatgcct ggaaaccttg gctgctacaa ggatcatgga 420
aacccacctc tctaactgg caccagtaaa acgtccaaca aactcaccat acaaacttgc 480
atcagttttt gtcggagtca gaggttcaag tttgctggga tggagtcagg ctatgcttgc 540
ttctgtggaa acaatcctga ttactggaag tacggggagg cagccagtac cgaatgcaac 600
agcgtctgct tcggggatca cacccaaccc tgtggtggcg atggcaggat catcctcttt 660
gatactctcg tgggcgcctg cggtgggaac tactcagcca tgtcttctgt ggtctattcc 720
cctgacttcc ccgacaccta tgccacgggg agggtctgct actggaccat ccgggttccg 780
ggggcctccc acatccactt cagcttcccc ctatttgaca tcagggactc ggcggacatg 840
gtggagcttc tggatggcta cacccaccgt gtcctagccc gcttccacgg gaggagccgc 900
ccacctctgt ccttcaacgt ctctctggac ttcgtcatct tgtatttctt ctctgatcgc 960

                                    246

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atcaatcagg cccagggatt tgctgtttta taccaagccg tcaaggaaga actgccacag 1020
gagaggcccg ctgtcaacca gacggtggcc gaggtgatca cggagcaggc caacctcagt 1080
gtcagcgctg cccggtcctc caaagtcctc tatgtcatca ccaccagccc cagccaccca 1140
cctcagactg tcccaggtag caattcctgg gcgccaccca tgggggctgg aagccacaga 1200
gttgaaggat ggacagtcta tggtctggca actctcctca tcctcacagt cacagccatt 1260
gtagcaaaga tacttctgca cgtcacattc aaatcccatc gtgttcctgc ttcaggggac 1320
cttagggatt gtcatcaacc agggacttcg ggggaaatct ggagcatttt ttacaagcct 1380
tccacttcaa tttccatctt taagaagaaa ctcaagggtc agagtcaaca agatgaccgc 1440
aatccccttg tgagtgacta aaaaccccac tgtgcctagg acttgaggtc cctctttgag 1500
ctcaaggctg ccgtggtcaa cctctcctgt ggttcttctc tgacagactc ttccctcctc 1560
tccctctgcc tcggcctctt cggggaaacc ctcctcctac agactaggaa gaggcacctg 1620
ctgccagggc aggcagagcc tggattcctc ctgctt                            1656


<210> 372
<211> 1425
<212> DNA
<213> Homo sapiens

<400> 372
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cggcccgcgc ctagccccgg cctcggcccc ggacccgagt gtttcacagc caatggtgcg 120
gattataggg gaacacagaa ctggacagca ctacaaggcg ggaagccatg tctgtttttgg 180
aacgagactt tccagcatcc atacaacact ctgaaatacc ccaacgggga gggggggcctg 240
ggtgagcaca actattgcag aaatccagat ggagacgtga gcccctggtg ctatgtggca 300
gagcacgagg atggtgtcta ctggaagtac tgtgagatac ctgcttgcca gatgcctgga 360
aaccttggct gctacaagga tcatggaaac ccacctcctc taactggcac cagtaaaacg 420
tccaacaaac tcaccataca aacttgcatc agttttttgtc ggagtcagag gttcaagtttt 480
gctgggatgg agtcaggcta tgcttgcttc tgtggaaaca atcctgatta ctggaagtac 540
ggggaggcag ccagtaccga atgcaacagc gtctgcttcg gggatcacac ccaaccctgt 600
ggtggcgatg gcaggatcat cctctttgat actctcgtgg gcgcctgcgg tgggaactac 660
tcagccatgt cttctgtggt ctattcccct gacttccccg acacctatgc cacggggagg 720
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tttgacatca gggactcggc ggacatggtg gagcttctgg atggctacac ccaccgtgtc 840
ctagcccgct ccacgggag gagccgccca cctctgtcct tcaacgtctc tctggacttc 900
gtcatcttgt atttcttctc tgatcgcatc aatcaggccc agggatttgc tgttttatac 960
caagccgtca aggaagaact gccacaggag aggcccgctg tcaaccagac ggtggccgag 1020
gtgatcacgg agcaggccaa cctcagtgtc agcgctgccc ggtcctccaa agtcctctat 1080
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ccacccatgg gggctggaag ccacagagtt gaaggatgga cagtctatgg tctggcaact 1200
ctcctcatcc tcacagtcac agccattgta gcaaagatac ttctgcacgt cacattcaaa 1260
tcccatcgtg ttcctgcttc aggggacctt agggattgtc atcaaccagg acttcggggg 1320
gaaatctgga gcatttttta caagccttcc acttcaattt ccatctttaa gaagaaactc 1380
aagggtcaga gtcaacaaga tgaccgcaat cccttgtga gtgac               1425


<210> 373
<211> 475
```

<212> PRT
<213> Homo sapiens

<400> 373
Met Ala Pro Pro Ala Ala Arg Leu Ala Leu Leu Ser Ala Ala Ala Leu
1   5   10   15

Thr Leu Ala Ala Arg Pro Ala Pro Ser Pro Gly Leu Gly Pro Gly Pro
            20   25   30

Glu Cys Phe Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Asn Trp
            35   40   45

Thr Ala Leu Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe
        50   55   60

Gln His Pro Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu
65   70   75   80

Gly Glu His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp
                85   90   95

Cys Tyr Val Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu
            100   105   110

Ile Pro Ala Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His
            115   120   125

Gly Asn Pro Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu
        130   135   140

Thr Ile Gln Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe
145   150   155   160

Ala Gly Met Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp
                165   170   175

Tyr Trp Lys Tyr Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys
            180   185   190

Phe Gly Asp His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu
            195   200   205

Phe Asp Thr Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ser
        210   215   220

Ser Val Val Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg
225   230   235   240

248

Val Cys Tyr Trp Thr Ile Arg Val Pro Gly Ala Ser His Ile His Phe
            245   250   255

Ser Phe Pro Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu
            260   265   270

Leu Asp Gly Tyr Thr His Arg Val Leu Ala Arg Phe His Gly Arg Ser
            275   280   285

Arg Pro Pro Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr
    290   295   300

Phe Phe Ser Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr
305   310   315   320

Gln Ala Val Lys Glu Glu Leu Pro Gln Glu Arg Pro Ala Val Asn Gln
            325   330   335

Thr Val Ala Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala
            340   345   350

Ala Arg Ser Ser Lys Val Leu Tyr Val Ile Thr Thr Ser Pro Ser His
            355   360   365

Pro Pro Gln Thr Val Pro Gly Ser Asn Ser Trp Ala Pro Pro Met Gly
    370   375   380

Ala Gly Ser His Arg Val Glu Gly Trp Thr Val Tyr Gly Leu Ala Thr
385   390   395   400

Leu Leu Ile Leu Thr Val Thr Ala Ile Val Ala Lys Ile Leu Leu His
            405   410   415

Val Thr Phe Lys Ser His Arg Val Pro Ala Ser Gly Asp Leu Arg Asp
            420   425   430

Cys His Gln Pro Gly Thr Ser Gly Glu Ile Trp Ser Ile Phe Tyr Lys
            435   440   445

Pro Ser Thr Ser Ile Ser Ile Phe Lys Lys Lys Leu Lys Gly Gln Ser
    450   455   460

Gln Gln Asp Asp Arg Asn Pro Leu Val Ser Asp
465   470   475

<210> 374

249

<211> 19
<212> PRT
<213> Homo sapiens

<400> 374
Met Ala Pro Pro Ala Ala Arg Leu Ala Leu Leu Ser Ala Ala Ala Leu
 1   5   10   15

Thr Leu Ala

<210> 375
<211> 456
<212> PRT
<213> Homo sapiens

<400> 375
Ala Arg Pro Ala Pro Ser Pro Gly Leu Gly Pro Gly Pro Glu Cys Phe
 1   5   10   15

Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Asn Trp Thr Ala Leu
            20   25   30

Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His Pro
            35   40   45

Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu His
    50   55   60

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr Val
 65   70   75   80

Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro Ala
                85   90   95

Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro
            100   105   110

Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile Gln
            115   120   125

Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met
    130   135   140

Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp Lys
145   150   155   160

250

```
Tyr Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly Asp
             165                 170                 175

His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp Thr
             180                 185                 190

Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ser Ser Val Val
             195                 200                 205

Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys Tyr
     210                 215                 220

Trp Thr Ile Arg Val Pro Gly Ala Ser His Ile His Phe Ser Phe Pro
225                 230                 235                 240

Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp Gly
             245                 250                 255

Tyr Thr His Arg Val Leu Ala Arg Phe His Gly Arg Ser Arg Pro Pro
             260                 265                 270

Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe Ser
             275                 280                 285

Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala Val
     290                 295                 300

Lys Glu Glu Leu Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Val Ala
305                 310                 315                 320

Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala Arg Ser
             325                 330                 335

Ser Lys Val Leu Tyr Val Ile Thr Thr Ser Pro Ser His Pro Pro Gln
             340                 345                 350

Thr Val Pro Gly Ser Asn Ser Trp Ala Pro Pro Met Gly Ala Gly Ser
             355                 360                 365

His Arg Val Glu Gly Trp Thr Val Tyr Gly Leu Ala Thr Leu Leu Ile
     370                 375                 380

Leu Thr Val Thr Ala Ile Val Ala Lys Ile Leu Leu His Val Thr Phe
385                 390                 395                 400

Lys Ser His Arg Val Pro Ala Ser Gly Asp Leu Arg Asp Cys His Gln
             405                 410                 415
```

251

```
Pro Gly Thr Ser Gly Glu Ile Trp Ser Ile Phe Tyr Lys Pro Ser Thr
         420                 425                 430

Ser Ile Ser Ile Phe Lys Lys Lys Leu Lys Gly Gln Ser Gln Gln Asp
         435                 440                 445

Asp Arg Asn Pro Leu Val Ser Asp                .
    450                 455
```

<210> 376
<211> 373
<212> PRT
<213> Homo sapiens

<400> 376
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Ala Arg Pro Ala Pro Ser Pro Gly Leu Gly Pro Gly Pro Glu Cys Phe
  1             5                 10                  15

Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Asn Trp Thr Ala Leu
         20                  25                  30

Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His Pro
         35                  40                  45

Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu His
    50                  55                  60

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr Val
 65                  70                  75                  80

Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro Ala
             85                  90                  95

Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro
             100                 105                 110

Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile Gln
         115                 120                 125

Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met
    130                 135                 140

Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp Lys
145                 150                 155                 160

Tyr Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly Asp
             165                 170                 175
```

252

His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp Thr
        180   185   190

Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ser Ser Val Val
        195   200   205

Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys Tyr
        210   215   220

Trp Thr Ile Arg Val Pro Gly Ala Ser His Ile His Phe Ser Phe Pro
225   230   235   240

Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp Gly
                245   250   255

Tyr Thr His Arg Val Leu Ala Arg Phe His Gly Arg Ser Arg Pro Pro
                260   265   270

Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe Ser
        275   280   285

Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala Val
        290   295   300

Lys Glu Glu Leu Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Val Ala
305   310   315   320

Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala Arg Ser
                325   330   335

Ser Lys Val Leu Tyr Val Ile Thr Thr Ser Pro Ser His Pro Pro Gln
        340   345   350

Thr Val Pro Gly Ser Asn Ser Trp Ala Pro Pro Met Gly Ala Gly Ser
        355   360   365

His Arg Val Glu Gly
    370

<210> 377
<211> 23
<212> PRT
<213> Homo sapiens

<400> 377
Trp Thr Val Tyr Gly Leu Ala Thr Leu Leu Ile Leu Thr Val Thr Ala

253

```
          1               5                    10                        15

Ile Val Ala Lys Ile Leu Leu
                20


<210> 378
<211> 60
<212> PRT
<213> Homo sapiens


<400> 378
His Val Thr Phe Lys Ser His Arg Val Pro Ala Ser Gly Asp Leu Arg
 1               5                    10                        15


Asp Cys His Gln Pro Gly Thr Ser Gly Glu Ile Trp Ser Ile Phe Tyr
                20                25                        30


Lys Pro Ser Thr Ser Ile Ser Ile Phe Lys Lys Lys Leu Lys Gly Gln
          35                    40                        45


Ser Gln Gln Asp Asp Arg Asn Pro Leu Val Ser Asp
          50                    55                    60


<210> 379
<211> 4628
<212> DNA
<213> Homo sapiens


<400> 379
gcggccgctc gcgatctaga actagtaatg atgctgcctc aaaactcgtg gcatattgat 60
tttggaagat gctgctgtca tcagaacctt ttctctgctg tggtaacttg catcctgctc 120
ctgaattcct gctttctcat cagcagtttt aatggaacag atttggagtt gaggctggtc 180
aatggagacg gtccctgctc tgggacagtg gaggtgaaat ccagggaca gtgggggact 240
gtgtgtgatg atgggtggaa cactactgcc tcaactgtcg tgtgcaaaca gcttggatgt 300
ccattttctt cgccatgtt tcgttttgga caagccgtga ctagacatgg aaaaatttgg 360
cttgatgatg tttcctgtta tggaaatgag tcagctctct gggaatgtca acaccgggaa 420
tggggaagcc ataactgtta tcatggagaa gatgttggtg tgaactgtta tggtgaagcc 480
aatctgggtt tgaggctagt ggatggaaac aactcctgtt cagggagagt ggaggtgaaa 540
ttccaagaaa ggtgggggac tatatgtgat gatgggtgga acttgaatac tgctgccgtg 600
gtgtgcaggc aactaggatg tccatcttct tttatttctt ctggagttgt taatagccct 660
gctgtattgc gccccatttg ctggatgac attttatgcc aggggaatga gttggcactc 720
tggaattgca gacatcgtgg atggggaaat catgactgca gtcacaatga ggatgtcaca 780
ttaacttgtt atgatagtag tgatcttgaa ctaaggcttg taggtggaac taaccgctgt 840
atggggagag tagagctgaa aatccaagga aggtggggga ccgtatgcca ccataagtgg 900
aacaatgctg cagctgatgt cgtatgcaag cagttgggat gtggaaccgc acttcacttc 960
gctggcttgc ctcatttgca gtcagggtct gatgttgtat ggcttgatgg tgtctcctgc 1020
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254

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tccggtaatg aatctttct ttgggactgc agacattccg gaaccgtcaa ttttgactgt 1080
cttcatcaaa acgatgtgtc tgtgatctgc tcagatggag cagatttgga actgcgacta 1140
gcagatggaa gtaacaattg ttcagggaga gtagaggtga gaattcatga acagtggtgg 1200
acaatatgtg accagaactg gaagaatgaa caagcccttg tggtttgtaa gcagctagga 1260
tgtccgttca gcgtctttgg cagtcgtcgt gctaaaccta gtaatgaagc tagagacatt 1320
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ggaaaagcaa agcgaacatg cttccgaaga tcagatgctg gagtaatttg ttctgataag 1440
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aaataccaag gagagtgggg gactgtgtgt catgacagat ggagcacaag gaatgcagct 1560
gttgtgtgta aacaattggg atgtggaaag cctatgcatg tgtttggtat gacctatttt 1620
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atctggact gtgaacacag tggatgggga aagcataatt gtgtacacag agaggatgtg 1740
attgtaacct gctcaggtga tgcaacatgg ggcctgaggc tggtgggcgg cagcaaccgc 1800
tgctcgggaa gactggaggt gtactttcaa ggacggtggg gcacagtgtg tgatgacggc 1860
tggaacagta aagctgcagc tgtggtgtgt agccagctgg actgcccatc ttctatcatt 1920
ggcatgggtc tgggaaacgc ttctacagga tatggaaaaa tttggctcga tgatgtttcc 1980
tgtgatggag atgagtcaga tctctggtca tgcaggaaca gtgggtgggg aaataatgac 2040
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cttgtgggtg gaagcagcag gtgtgctgga aaagttgagg tgaatgtcca gggtgccgtg 2160
ggaattctgt gtgctaatgg ctggggaatg aacattgctg aagttgtttg caggcaactt 2220
gaatgtgggt ctgcaatcag ggtctccaga gagcctcatt tcacagaaag aacattacac 2280
atcttaatgt cgaattctgg ctgcactgga ggggaagcct ctctctggga ttgtatacga 2340
tgggagtgga aacagactgc gtgtcattta aatatggaag caagtttgat ctgctcagcc 2400
cacaggcagc ccaggctggt tggagctgat atgccctgct ctggacgtgt tgaagtgaaa 2460
catgcagaca catggcgctc tgtctgtgat tctgatttct ctcttcatgc tgccaatgtg 2520
ctgtgcagag aattaaattg tggagatgcc atatctcttt ctgtgggaga tcactttgga 2580
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gttgtctgtt cccgatatac agatgtccga cttgtgaatg gcaaatccca gtgtgacggg 2760
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255

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<210> 380
<211> 4359
<212> DNA
<213> Homo sapiens

<400> 380

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256

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257

<210> 381
<211> 1453
<212> PRT
<213> Homo sapiens

<400> 381
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Cys His Gln Asn Leu Phe Ser Ala Val Val Thr Cys Ile Leu Leu Leu
                20   25   30

Asn Ser Cys Phe Leu Ile Ser Ser Phe Asn Gly Thr Asp Leu Glu Leu
            35   40   45

Arg Leu Val Asn Gly Asp Gly Pro Cys Ser Gly Thr Val Glu Val Lys
        50   55   60

Phe Gln Gly Gln Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Thr Thr
65   70   75   80

Ala Ser Thr Val Val Cys Lys Gln Leu Gly Cys Pro Phe Ser Phe Ala
                85   90   95

Met Phe Arg Phe Gly Gln Ala Val Thr Arg His Gly Lys Ile Trp Leu
            100   105   110

Asp Asp Val Ser Cys Tyr Gly Asn Glu Ser Ala Leu Trp Glu Cys Gln
            115   120   125

His Arg Glu Trp Gly Ser His Asn Cys Tyr His Gly Glu Asp Val Gly
        130   135   140

Val Asn Cys Tyr Gly Glu Ala Asn Leu Gly Leu Arg Leu Val Asp Gly
145   150   155   160

Asn Asn Ser Cys Ser Gly Arg Val Glu Val Lys Phe Gln Glu Arg Trp
                165   170   175

Gly Thr Ile Cys Asp Asp Gly Trp Asn Leu Asn Thr Ala Ala Val Val
            180   185   190

Cys Arg Gln Leu Gly Cys Pro Ser Ser Phe Ile Ser Ser Gly Val Val
            195   200   205

Asn Ser Pro Ala Val Leu Arg Pro Ile Trp Leu Asp Asp Ile Leu Cys
        210   215   220

258

Gln Gly Asn Glu Leu Ala Leu Trp Asn Cys Arg His Arg Gly Trp Gly
225   230   235   240

Asn His Asp Cys Ser His Asn Glu Asp Val Thr Leu Thr Cys Tyr Asp
                245   250   255

Ser Ser Asp Leu Glu Leu Arg Leu Val Gly Gly Thr Asn Arg Cys Met
            260   265   270

Gly Arg Val Glu Leu Lys Ile Gln Gly Arg Trp Gly Thr Val Cys His
            275   280   285

His Lys Trp Asn Asn Ala Ala Ala Asp Val Val Cys Lys Gln Leu Gly
        290   295   300

Cys Gly Thr Ala Leu His Phe Ala Gly Leu Pro His Leu Gln Ser Gly
305   310   315   320

Ser Asp Val Val Trp Leu Asp Gly Val Ser Cys Ser Gly Asn Glu Ser
                325   330   335

Phe Leu Trp Asp Cys Arg His Ser Gly Thr Val Asn Phe Asp Cys Leu
            340   345   350

His Gln Asn Asp Val Ser Val Ile Cys Ser Asp Gly Ala Asp Leu Glu
            355   360   365

Leu Arg Leu Ala Asp Gly Ser Asn Asn Cys Ser Gly Arg Val Glu Val
            370   375   380

Arg Ile His Glu Gln Trp Trp Thr Ile Cys Asp Gln Asn Trp Lys Asn
385   390   395   400

Glu Gln Ala Leu Val Val Cys Lys Gln Leu Gly Cys Pro Phe Ser Val
                405   410   415

Phe Gly Ser Arg Arg Ala Lys Pro Ser Asn Glu Ala Arg Asp Ile Trp
            420   425   430

Ile Asn Ser Ile Ser Cys Thr Gly Asn Glu Ser Ala Leu Trp Asp Cys
            435   440   445

Thr Tyr Asp Gly Lys Ala Lys Arg Thr Cys Phe Arg Arg Ser Asp Ala
        450   455   460

Gly Val Ile Cys Ser Asp Lys Ala Asp Leu Asp Leu Arg Leu Val Gly
465   470   475   480

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Ala His Ser Pro Cys Tyr Gly Arg Leu Glu Val Lys Tyr Gln Gly Glu
            485                 490                 495

Trp Gly Thr Val Cys His Asp Arg Trp Ser Thr Arg Asn Ala Ala Val
            500                 505                 510

Val Cys Lys Gln Leu Gly Cys Gly Lys Pro Met His Val Phe Gly Met
            515                 520                 525

Thr Tyr Phe Lys Glu Ala Ser Gly Pro Ile Trp Leu Asp Asp Val Ser
    530                 535                 540

Cys Ile Gly Asn Glu Ser Asn Ile Trp Asp Cys Glu His Ser Gly Trp
545                 550                 555                 560

Gly Lys His Asn Cys Val His Arg Glu Asp Val Ile Val Thr Cys Ser
            565                 570                 575

Gly Asp Ala Thr Trp Gly Leu Arg Leu Val Gly Gly Ser Asn Arg Cys
            580                 585                 590

Ser Gly Arg Leu Glu Val Tyr Phe Gln Gly Arg Trp Gly Thr Val Cys
            595                 600                 605

Asp Asp Gly Trp Asn Ser Lys Ala Ala Ala Val Val Cys Ser Gln Leu
    610                 615                 620

Asp Cys Pro Ser Ser Ile Ile Gly Met Gly Leu Gly Asn Ala Ser Thr
625                 630                 635                 640

Gly Tyr Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Asp Gly Asp Glu
            645                 650                 655

Ser Asp Leu Trp Ser Cys Arg Asn Ser Gly Trp Gly Asn Asn Asp Cys
            660                 665                 670

Ser His Ser Glu Asp Val Gly Val Ile Cys Ser Asp Ala Ser Asp Met
    675                 680                 685

Glu Leu Arg Leu Val Gly Gly Ser Ser Arg Cys Ala Gly Lys Val Glu
    690                 695                 700

Val Asn Val Gln Gly Ala Val Gly Ile Leu Cys Ala Asn Gly Trp Gly
705                 710                 715                 720

Met Asn Ile Ala Glu Val Val Cys Arg Gln Leu Glu Cys Gly Ser Ala
            725                 730                 735

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Ile Arg Val Ser Arg Glu Pro His Phe Thr Glu Arg Thr Leu His Ile
        740   745   750

Leu Met Ser Asn Ser Gly Cys Thr Gly Gly Glu Ala Ser Leu Trp Asp
        755   760   765

Cys Ile Arg Trp Glu Trp Lys Gln Thr Ala Cys His Leu Asn Met Glu
    770   775   780

Ala Ser Leu Ile Cys Ser Ala His Arg Gln Pro Arg Leu Val Gly Ala
785   790   795   800

Asp Met Pro Cys Ser Gly Arg Val Glu Val Lys His Ala Asp Thr Trp
            805   810   815

Arg Ser Val Cys Asp Ser Asp Phe Ser Leu His Ala Ala Asn Val Leu
        820   825   830

Cys Arg Glu Leu Asn Cys Gly Asp Ala Ile Ser Leu Ser Val Gly Asp
        835   840   845

His Phe Gly Lys Gly Asn Gly Leu Thr Trp Ala Glu Lys Phe Gln Cys
    850   855   860

Glu Gly Ser Glu Thr His Leu Ala Leu Cys Pro Ile Val Gln His Pro
865   870   875   880

Glu Asp Thr Cys Ile His Ser Arg Glu Val Gly Val Val Cys Ser Arg
            885   890   895

Tyr Thr Asp Val Arg Leu Val Asn Gly Lys Ser Gln Cys Asp Gly Gln
        900   905   910

Val Glu Ile Asn Val Leu Gly His Trp Gly Ser Leu Cys Asp Thr His
        915   920   925

Trp Asp Pro Glu Asp Ala Arg Val Leu Cys Arg Gln Leu Ser Cys Gly
    930   935   940

Thr Ala Leu Ser Thr Thr Gly Gly Lys Tyr Ile Gly Glu Arg Ser Val
945   950   955   960

Arg Val Trp Gly His Arg Phe His Cys Leu Gly Asn Glu Ser Leu Leu
            965   970   975

Asp Asn Cys Gln Met Thr Val Leu Gly Ala Pro Pro Cys Ile His Gly
        980   985   990

261

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Asn Thr Val Ser Val Ile Cys Thr Gly Ser Leu Thr Gln Pro Leu Phe
     995                1000                1005

Pro Cys Leu Ala Asn Val Ser Asp Pro Tyr Leu Ser Ala Val Pro Glu
    1010                1015                1020

Gly Ser Ala Leu Ile Cys Leu Glu Asp Lys Arg Leu Arg Leu Val Asp
1025                1030                1035                1040

Gly Asp Ser Arg Cys Ala Gly Arg Val Glu Ile Tyr His Asp Gly Phe
              1045                1050                1055

Trp Gly Thr Ile Cys Asp Asp Gly Trp Asp Leu Ser Asp Ala His Val
             1060                1065                1070

Val Cys Gln Lys Leu Gly Cys Gly Val Ala Phe Asn Ala Thr Val Ser
         1075                1080                1085

Ala His Phe Gly Glu Gly Ser Gly Pro Ile Trp Leu Asp Asp Leu Asn
    1090                1095                1100

Cys Thr Gly Thr Glu Ser His Leu Trp Gln Cys Pro Ser Arg Gly Trp
1105                1110                1115                1120

Gly Gln His Asp Cys Arg His Lys Glu Asp Ala Gly Val Ile Cys Ser
              1125                1130                1135

Glu Phe Thr Ala Leu Arg Leu Tyr Ser Glu Thr Glu Thr Glu Ser Cys
         1140                1145                1150

Ala Gly Arg Leu Glu Val Phe Tyr Asn Gly Thr Trp Gly Ser Val Gly
    1155                1160                1165

Arg Arg Asn Ile Thr Thr Ala Ile Ala Gly Ile Val Cys Arg Gln Leu
    1170                1175                1180

Gly Cys Gly Glu Asn Gly Val Val Ser Leu Ala Pro Leu Ser Lys Thr
1185                1190                1195                1200

Gly Ser Gly Phe Met Trp Val Asp Asp Ile Gln Cys Pro Lys Thr His
              1205                1210                1215

Ile Ser Ile Trp Gln Cys Leu Ser Ala Pro Trp Glu Arg Arg Ile Ser
         1220                1225                1230

Ser Pro Ala Glu Glu Thr Trp Ile Thr Cys Glu Asp Arg Ile Arg Val
    1235                1240                1245
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262

Arg Gly Gly Asp Thr Glu Cys Ser Gly Arg Val Glu Ile Trp His Ala
  1250   1255   1260

Gly Ser Trp Gly Thr Val Cys Asp Asp Ser Trp Asp Leu Ala Glu Ala
1265   1270   1275   1280

Glu Val Val Cys Gln Gln Leu Gly Cys Gly Ser Ala Leu Ala Ala Leu
              1285   1290   1295

Arg Asp Ala Ser Phe Gly Gln Gly Thr Gly Thr Ile Trp Leu Asp Asp
            1300   1305   1310

Met Arg Cys Lys Gly Asn Glu Ser Phe Leu Trp Asp Cys His Ala Lys
          1315   1320   1325

Pro Trp Gly Gln Ser Asp Cys Gly His Lys Glu Asp Ala Gly Val Arg
    1330   1335   1340

Cys Ser Gly Gln Ser Leu Lys Ser Leu Asn Ala Ser Ser Gly His Leu
1345   1350   1355   1360

Ala Leu Ile Leu Ser Ser Ile Phe Gly Leu Leu Leu Leu Val Leu Phe
              1365   1370   1375

Ile Leu Phe Leu Thr Trp Cys Arg Val Gln Lys Gln Lys His Leu Pro
            1380   1385   1390

Leu Arg Val Ser Thr Arg Arg Arg Gly Ser Leu Glu Glu Asn Leu Phe
          1395   1400   1405

His Glu Met Glu Thr Cys Leu Lys Arg Glu Asp Pro His Gly Thr Arg
    1410   1415   1420

Thr Ser Asp Asp Thr Pro Asn His Gly Cys Glu Asp Ala Ser Asp Thr
1425   1430   1435   1440

Ser Leu Leu Gly Val Leu Pro Ala Ser Glu Ala Thr Lys
              1445   1450

<210> 382
<211> 40
<212> PRT
<213> Homo sapiens

<400> 382
Met Met Leu Pro Gln Asn Ser Trp His Ile Asp Phe Gly Arg Cys Cys
  1   5   10   15

263

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Cys His Gln Asn Leu Phe Ser Ala Val Val Thr Cys Ile Leu Leu Leu
            20                  25                  30

Asn Ser Cys Phe Leu Ile Ser Ser
        35                  40


<210> 383
<211> 1413
<212> PRT
<213> Homo sapiens

<400> 383
Phe Asn Gly Thr Asp Leu Glu Leu Arg Leu Val Asn Gly Asp Gly Pro
 1               5                  10                  15


Cys Ser Gly Thr Val Glu Val Lys Phe Gln Gly Gln Trp Gly Thr Val
            20                  25                  30


Cys Asp Asp Gly Trp Asn Thr Thr Ala Ser Thr Val Val Cys Lys Gln
            35                  40                  45


Leu Gly Cys Pro Phe Ser Phe Ala Met Phe Arg Phe Gly Gln Ala Val
        50                  55                  60


Thr Arg His Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Tyr Gly Asn
65                  70                  75                  80


Glu Ser Ala Leu Trp Glu Cys Gln His Arg Glu Trp Gly Ser His Asn
                85                  90                  95


Cys Tyr His Gly Glu Asp Val Gly Val Asn Cys Tyr Gly Glu Ala Asn
            100                 105                 110


Leu Gly Leu Arg Leu Val Asp Gly Asn Asn Ser Cys Ser Gly Arg Val
        115                 120                 125


Glu Val Lys Phe Gln Glu Arg Trp Gly Thr Ile Cys Asp Asp Gly Trp
        130                 135                 140


Asn Leu Asn Thr Ala Ala Val Val Cys Arg Gln Leu Gly Cys Pro Ser
145                 150                 155                 160


Ser Phe Ile Ser Ser Gly Val Val Asn Ser Pro Ala Val Leu Arg Pro
                165                 170                 175


Ile Trp Leu Asp Asp Ile Leu Cys Gln Gly Asn Glu Leu Ala Leu Trp
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Asn Cys Arg His Arg Gly Trp Gly Asn His Asp Cys Ser His Asn Glu
        195   200   205

Asp Val Thr Leu Thr Cys Tyr Asp Ser Ser Asp Leu Glu Leu Arg Leu
        210   215   220

Val Gly Gly Thr Asn Arg Cys Met Gly Arg Val Glu Leu Lys Ile Gln
225   230   235   240

Gly Arg Trp Gly Thr Val Cys His His Lys Trp Asn Asn Ala Ala Ala
                245   250   255

Asp Val Val Cys Lys Gln Leu Gly Cys Gly Thr Ala Leu His Phe Ala
            260   265   270

Gly Leu Pro His Leu Gln Ser Gly Ser Asp Val Val Trp Leu Asp Gly
        275   280   285

Val Ser Cys Ser Gly Asn Glu Ser Phe Leu Trp Asp Cys Arg His Ser
    290   295   300

Gly Thr Val Asn Phe Asp Cys Leu His Gln Asn Asp Val Ser Val Ile
305   310   315   320

Cys Ser Asp Gly Ala Asp Leu Glu Leu Arg Leu Ala Asp Gly Ser Asn
            325   330   335

Asn Cys Ser Gly Arg Val Glu Val Arg Ile His Glu Gln Trp Trp Thr
        340   345   350

Ile Cys Asp Gln Asn Trp Lys Asn Glu Gln Ala Leu Val Val Cys Lys
        355   360   365

Gln Leu Gly Cys Pro Phe Ser Val Phe Gly Ser Arg Arg Ala Lys Pro
    370   375   380

Ser Asn Glu Ala Arg Asp Ile Trp Ile Asn Ser Ile Ser Cys Thr Gly
385   390   395   400

Asn Glu Ser Ala Leu Trp Asp Cys Thr Tyr Asp Gly Lys Ala Lys Arg
            405   410   415

Thr Cys Phe Arg Arg Ser Asp Ala Gly Val Ile Cys Ser Asp Lys Ala
        420   425   430

Asp Leu Asp Leu Arg Leu Val Gly Ala His Ser Pro Cys Tyr Gly Arg

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                435                   440                   445

    Leu Glu Val Lys Tyr Gln Gly Glu Trp Gly Thr Val Cys His Asp Arg
        450                   455                   460

    Trp Ser Thr Arg Asn Ala Ala Val Val Cys Lys Gln Leu Gly Cys Gly
    465                   470                   475                   480

    Lys Pro Met His Val Phe Gly Met Thr Tyr Phe Lys Glu Ala Ser Gly
                    485                   490                   495

    Pro Ile Trp Leu Asp Asp Val Ser Cys Ile Gly Asn Glu Ser Asn Ile
                    500                   505                   510

    Trp Asp Cys Glu His Ser Gly Trp Gly Lys His Asn Cys Val His Arg
                515                   520                   525

    Glu Asp Val Ile Val Thr Cys Ser Gly Asp Ala Thr Trp Gly Leu Arg
        530                   535                   540

    Leu Val Gly Gly Ser Asn Arg Cys Ser Gly Arg Leu Glu Val Tyr Phe
    545                   550                   555                   560

    Gln Gly Arg Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Ser Lys Ala
                    565                   570                   575

    Ala Ala Val Val Cys Ser Gln Leu Asp Cys Pro Ser Ser Ile Ile Gly
                    580                   585                   590

    Met Gly Leu Gly Asn Ala Ser Thr Gly Tyr Gly Lys Ile Trp Leu Asp
                595                   600                   605

    Asp Val Ser Cys Asp Gly Asp Glu Ser Asp Leu Trp Ser Cys Arg Asn
        610                   615                   620

    Ser Gly Trp Gly Asn Asn Asp Cys Ser His Ser Glu Asp Val Gly Val
    625                   630                   635                   640

    Ile Cys Ser Asp Ala Ser Asp Met Glu Leu Arg Leu Val Gly Gly Ser
                    645                   650                   655

    Ser Arg Cys Ala Gly Lys Val Glu Val Asn Val Gln Gly Ala Val Gly
                660                   665                   670

    Ile Leu Cys Ala Asn Gly Trp Gly Met Asn Ile Ala Glu Val Val Cys
                675                   680                   685

    Arg Gln Leu Glu Cys Gly Ser Ala Ile Arg Val Ser Arg Glu Pro His

                                  266
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Phe Thr Glu Arg Thr Leu His Ile Leu Met Ser Asn Ser Gly Cys Thr
705   710   715   720

Gly Gly Glu Ala Ser Leu Trp Asp Cys Ile Arg Trp Glu Trp Lys Gln
                    725   730   735

Thr Ala Cys His Leu Asn Met Glu Ala Ser Leu Ile Cys Ser Ala His
                    740   745   750

Arg Gln Pro Arg Leu Val Gly Ala Asp Met Pro Cys Ser Gly Arg Val
                    755   760   765

Glu Val Lys His Ala Asp Thr Trp Arg Ser Val Cys Asp Ser Asp Phe
                    770   775   780

Ser Leu His Ala Ala Asn Val Leu Cys Arg Glu Leu Asn Cys Gly Asp
785   790   795   800

Ala Ile Ser Leu Ser Val Gly Asp His Phe Gly Lys Gly Asn Gly Leu
                    805   810   815

Thr Trp Ala Glu Lys Phe Gln Cys Glu Gly Ser Glu Thr His Leu Ala
                    820   825   830

Leu Cys Pro Ile Val Gln His Pro Glu Asp Thr Cys Ile His Ser Arg
                    835   840   845

Glu Val Gly Val Val Cys Ser Arg Tyr Thr Asp Val Arg Leu Val Asn
                    850   855   860

Gly Lys Ser Gln Cys Asp Gly Gln Val Glu Ile Asn Val Leu Gly His
865   870   875   880

Trp Gly Ser Leu Cys Asp Thr His Trp Asp Pro Glu Asp Ala Arg Val
                    885   890   895

Leu Cys Arg Gln Leu Ser Cys Gly Thr Ala Leu Ser Thr Thr Gly Gly
                    900   905   910

Lys Tyr Ile Gly Glu Arg Ser Val Arg Val Trp Gly His Arg Phe His
                    915   920   925

Cys Leu Gly Asn Glu Ser Leu Leu Asp Asn Cys Gln Met Thr Val Leu
                    930   935   940

Gly Ala Pro Pro Cys Ile His Gly Asn Thr Val Ser Val Ile Cys Thr

267

Gly Ser Leu Thr Gln Pro Leu Phe Pro Cys Leu Ala Asn Val Ser Asp
                965   970   . 975

Pro Tyr Leu Ser Ala Val Pro Glu Gly Ser Ala Leu Ile Cys Leu Glu
            980   985   990

Asp Lys Arg Leu Arg Leu Val Asp Gly Asp Ser Arg Cys Ala Gly Arg
        995   1000   1005

Val Glu Ile Tyr His Asp Gly Phe Trp Gly Thr Ile Cys Asp Asp Gly
    1010   1015   1020

Trp Asp Leu Ser Asp Ala His Val Val Cys Gln Lys Leu Gly Cys Gly
1025   1030   1035   1040

Val Ala Phe Asn Ala Thr Val Ser Ala His Phe Gly Glu Gly Ser Gly
                1045   1050   1055

Pro Ile Trp Leu Asp Asp Leu Asn Cys Thr Gly Thr Glu Ser His Leu
                1060   1065   1070

Trp Gln Cys Pro Ser Arg Gly Trp Gly Gln His Asp Cys Arg His Lys
            1075   1080   1085

Glu Asp Ala Gly Val Ile Cys Ser Glu Phe Thr Ala Leu Arg Leu Tyr
    1090   1095   1100

Ser Glu Thr Glu Thr Glu Ser Cys Ala Gly Arg Leu Glu Val Phe Tyr
1105   .   1110   1115   1120

Asn Gly Thr Trp Gly Ser Val Gly Arg Arg Asn Ile Thr Thr Ala Ile
                1125   1130   1135

Ala Gly Ile Val Cys Arg Gln Leu Gly Cys Gly Glu Asn Gly Val Val
            1140   1145   1150

Ser Leu Ala Pro Leu Ser Lys Thr Gly Ser Gly Phe Met Trp Val Asp
            1155   1160   1165

Asp Ile Gln Cys Pro Lys Thr His Ile Ser Ile Trp Gln Cys Leu Ser
    1170   1175   1180

Ala Pro Trp Glu Arg Arg Ile Ser Ser Pro Ala Glu Glu Thr Trp Ile
1185   1190   1195   1200

Thr Cys Glu Asp Arg Ile Arg Val Arg Gly Gly Asp Thr Glu Cys Ser

268

Gly Arg Val Glu Ile Trp His Ala Gly Ser Trp Gly Thr Val Cys Asp
            1220   1225   1230

Asp Ser Trp Asp Leu Ala Glu Ala Glu Val Val Cys Gln Gln Leu Gly
            1235   1240   1245

Cys Gly Ser Ala Leu Ala Ala Leu Arg Asp Ala Ser Phe Gly Gln Gly
        1250   1255   1260

Thr Gly Thr Ile Trp Leu Asp Asp Met Arg Cys Lys Gly Asn Glu Ser
1265   1270   1275   1280

Phe Leu Trp Asp Cys His Ala Lys Pro Trp Gly Gln Ser Asp Cys Gly
            1285   1290   1295

His Lys Glu Asp Ala Gly Val Arg Cys Ser Gly Gln Ser Leu Lys Ser
            1300   1305   1310

Leu Asn Ala Ser Ser Gly His Leu Ala Leu Ile Leu Ser Ser Ile Phe
        1315   1320   1325

Gly Leu Leu Leu Leu Val Leu Phe Ile Leu Phe Leu Thr Trp Cys Arg
        1330   1335   1340

Val Gln Lys Gln Lys His Leu Pro Leu Arg Val Ser Thr Arg Arg Arg
1345   1350   1355   1360

Gly Ser Leu Glu Glu Asn Leu Phe His Glu Met Glu Thr Cys Leu Lys
            1365   1370   1375

Arg Glu Asp Pro His Gly Thr Arg Thr Ser Asp Asp Thr Pro Asn His
            1380   1385   1390

Gly Cys Glu Asp Ala Ser Asp Thr Ser Leu Leu Gly Val Leu Pro Ala
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Ser Glu Ala Thr Lys
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<210> 384
<211> 1319
<212> PRT
<213> Homo sapiens

<400> 384

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Cys Ser Gly Thr Val Glu Val Lys Phe Gln Gly Gln Trp Gly Thr Val
            20                  25                  30

Cys Asp Asp Gly Trp Asn Thr Thr Ala Ser Thr Val Val Cys Lys Gln
        35                  40                  45

Leu Gly Cys Pro Phe Ser Phe Ala Met Phe Arg Phe Gly Gln Ala Val
        50                  55                  60

Thr Arg His Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Tyr Gly Asn
65                  70                  75                  80

Glu Ser Ala Leu Trp Glu Cys Gln His Arg Glu Trp Gly Ser His Asn
                85                  90                  95

Cys Tyr His Gly Glu Asp Val Gly Val Asn Cys Tyr Gly Glu Ala Asn
            100                 105                 110

Leu Gly Leu Arg Leu Val Asp Gly Asn Asn Ser Cys Ser Gly Arg Val
        115                 120                 125

Glu Val Lys Phe Gln Glu Arg Trp Gly Thr Ile Cys Asp Asp Gly Trp
    130                 135                 140

Asn Leu Asn Thr Ala Ala Val Val Cys Arg Gln Leu Gly Cys Pro Ser
145                 150                 155                 160

Ser Phe Ile Ser Ser Gly Val Val Asn Ser Pro Ala Val Leu Arg Pro
            165                 170                 175

Ile Trp Leu Asp Asp Ile Leu Cys Gln Gly Asn Glu Leu Ala Leu Trp
        180                 185                 190

Asn Cys Arg His Arg Gly Trp Gly Asn His Asp Cys Ser His Asn Glu
        195                 200                 205

Asp Val Thr Leu Thr Cys Tyr Asp Ser Ser Asp Leu Glu Leu Arg Leu
    210                 215                 220

Val Gly Gly Thr Asn Arg Cys Met Gly Arg Val Glu Leu Lys Ile Gln
225                 230                 235                 240

Gly Arg Trp Gly Thr Val Cys His His Lys Trp Asn Asn Ala Ala Ala
            245                 250                 255
```

270

Asp Val Val Cys Lys Gln Leu Gly Cys Gly Thr Ala Leu His Phe Ala
            260   265   270

Gly Leu Pro His Leu Gln Ser Gly Ser Asp Val Val Trp Leu Asp Gly
            275   280   285

Val Ser Cys Ser Gly Asn Glu Ser Phe Leu Trp Asp Cys Arg His Ser
        290   295   300

Gly Thr Val Asn Phe Asp Cys Leu His Gln Asn Asp Val Ser Val Ile
305   310   315   320

Cys Ser Asp Gly Ala Asp Leu Glu Leu Arg Leu Ala Asp Gly Ser Asn
            325   330   335

Asn Cys Ser Gly Arg Val Glu Val Arg Ile His Glu Gln Trp Trp Thr
            340   345   350

Ile Cys Asp Gln Asn Trp Lys Asn Glu Gln Ala Leu Val Val Cys Lys
        355   360   365

Gln Leu Gly Cys Pro Phe Ser Val Phe Gly Ser Arg Arg Ala Lys Pro
    370   375   380

Ser Asn Glu Ala Arg Asp Ile Trp Ile Asn Ser Ile Ser Cys Thr Gly
385   390   395   400

Asn Glu Ser Ala Leu Trp Asp Cys Thr Tyr Asp Gly Lys Ala Lys Arg
            405   410   415

Thr Cys Phe Arg Arg Ser Asp Ala Gly Val Ile Cys Ser Asp Lys Ala
            420   425   430

Asp Leu Asp Leu Arg Leu Val Gly Ala His Ser Pro Cys Tyr Gly Arg
            435   440   445

Leu Glu Val Lys Tyr Gln Gly Glu Trp Gly Thr Val Cys His Asp Arg
    450   455   460

Trp Ser Thr Arg Asn Ala Ala Val Val Cys Lys Gln Leu Gly Cys Gly
465   470   475   480

Lys Pro Met His Val Phe Gly Met Thr Tyr Phe Lys Glu Ala Ser Gly
            485   490   495

Pro Ile Trp Leu Asp Asp Val Ser Cys Ile Gly Asn Glu Ser Asn Ile
            500   505   510

271

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Trp Asp Cys Glu His Ser Gly Trp Gly Lys His Asn Cys Val His Arg
    515                 520             525

Glu Asp Val Ile Val Thr Cys Ser Gly Asp Ala Thr Trp Gly Leu Arg
    530                 535             540

Leu Val Gly Gly Ser Asn Arg Cys Ser Gly Arg Leu Glu Val Tyr Phe
545                 550             555                 560

Gln Gly Arg Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Ser Lys Ala
                565             570             575

Ala Ala Val Val Cys Ser Gln Leu Asp Cys Pro Ser Ser Ile Ile Gly
            580             585             590

Met Gly Leu Gly Asn Ala Ser Thr Gly Tyr Gly Lys Ile Trp Leu Asp
            595             600             605

Asp Val Ser Cys Asp Gly Asp Glu Ser Asp Leu Trp Ser Cys Arg Asn
    610             615             620

Ser Gly Trp Gly Asn Asn Asp Cys Ser His Ser Glu Asp Val Gly Val
625             630             635             640

Ile Cys Ser Asp Ala Ser Asp Met Glu Leu Arg Leu Val Gly Gly Ser
            645             650             655

Ser Arg Cys Ala Gly Lys Val Glu Val Asn Val Gln Gly Ala Val Gly
            660             665             670

Ile Leu Cys Ala Asn Gly Trp Gly Met Asn Ile Ala Glu Val Val Cys
            675             680             685

Arg Gln Leu Glu Cys Gly Ser Ala Ile Arg Val Ser Arg Glu Pro His
    690             695             700

Phe Thr Glu Arg Thr Leu His Ile Leu Met Ser Asn Ser Gly Cys Thr
705             710             715             720

Gly Gly Glu Ala Ser Leu Trp Asp Cys Ile Arg Trp Glu Trp Lys Gln
                725             730             735      .

Thr Ala Cys His Leu Asn Met Glu Ala Ser Leu Ile Cys Ser Ala His
            740             745             750

Arg Gln Pro Arg Leu Val Gly Ala Asp Met Pro Cys Ser Gly Arg Val
    755             760             765
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272

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Glu Val Lys His Ala Asp Thr Trp Arg Ser Val Cys Asp Ser Asp Phe
    770              775              780

Ser Leu His Ala Ala Asn Val Leu Cys Arg Glu Leu Asn Cys Gly Asp
785              790              795              800

Ala Ile Ser Leu Ser Val Gly Asp His Phe Gly Lys Gly Asn Gly Leu
        805              810              815

Thr Trp Ala Glu Lys Phe Gln Cys Glu Gly Ser Glu Thr His Leu Ala
        820              825              830

Leu Cys Pro Ile Val Gln His Pro Glu Asp Thr Cys Ile His Ser Arg
        835              840              845

Glu Val Gly Val Val Cys Ser Arg Tyr Thr Asp Val Arg Leu Val Asn
    850              855              860

Gly Lys Ser Gln Cys Asp Gly Gln Val Glu Ile Asn Val Leu Gly His
865              870              875              880

Trp Gly Ser Leu Cys Asp Thr His Trp Asp Pro Glu Asp Ala Arg Val
        885              890              895

Leu Cys Arg Gln Leu Ser Cys Gly Thr Ala Leu Ser Thr Thr Gly Gly
        900              905              910

Lys Tyr Ile Gly Glu Arg Ser Val Arg Val Trp Gly His Arg Phe His
        915              920              925

Cys Leu Gly Asn Glu Ser Leu Leu Asp Asn Cys Gln Met Thr Val Leu
    930              935              940

Gly Ala Pro Pro Cys Ile His Gly Asn Thr Val Ser Val Ile Cys Thr
945              950              955              960

Gly Ser Leu Thr Gln Pro Leu Phe Pro Cys Leu Ala Asn Val Ser Asp
        965              970              975

Pro Tyr Leu Ser Ala Val Pro Glu Gly Ser Ala Leu Ile Cys Leu Glu
        980              985              990

Asp Lys Arg Leu Arg Leu Val Asp Gly Asp Ser Arg Cys Ala Gly Arg
        995              1000             1005

Val Glu Ile Tyr His Asp Gly Phe Trp Gly Thr Ile Cys Asp Asp Gly
    1010             1015             1020
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273

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Trp Asp Leu Ser Asp Ala His Val Val Cys Gln Lys Leu Gly Cys Gly
1025                1030                1035                1040

Val Ala Phe Asn Ala Thr Val Ser Ala His Phe Gly Glu Gly Ser Gly
              1045                1050                1055

Pro Ile Trp Leu Asp Asp Leu Asn Cys Thr Gly Thr Glu Ser His Leu
          1060                1065                1070

Trp Gln Cys Pro Ser Arg Gly Trp Gly Gln His Asp Cys Arg His Lys
          1075                1080                1085

Glu Asp Ala Gly Val Ile Cys Ser Glu Phe Thr Ala Leu Arg Leu Tyr
     1090                1095                1100

Ser Glu Thr Glu Thr Glu Ser Cys Ala Gly Arg Leu Glu Val Phe Tyr
1105                1110                1115                1120

Asn Gly Thr Trp Gly Ser Val Gly Arg Arg Asn Ile Thr Thr Ala Ile
          1125                1130                1135

Ala Gly Ile Val Cys Arg Gln Leu Gly Cys Gly Glu Asn Gly Val Val
          1140                1145                1150

Ser Leu Ala Pro Leu Ser Lys Thr Gly Ser Gly Phe Met Trp Val Asp
          1155                1160                1165

Asp Ile Gln Cys Pro Lys Thr His Ile Ser Ile Trp Gln Cys Leu Ser
     1170                1175                1180

Ala Pro Trp Glu Arg Arg Ile Ser Ser Pro Ala Glu Glu Thr Trp Ile
1185                1190                1195                1200

Thr Cys Glu Asp Arg Ile Arg Val Arg Gly Gly Asp Thr Glu Cys Ser
          1205                1210                1215

Gly Arg Val Glu Ile Trp His Ala Gly Ser Trp Gly Thr Val Cys Asp
          1220                1225                1230

Asp Ser Trp Asp Leu Ala Glu Ala Glu Val Val Cys Gln Gln Leu Gly
     1235                1240                1245

Cys Gly Ser Ala Leu Ala Ala Leu Arg Asp Ala Ser Phe Gly Gln Gly
     1250                1255                1260

Thr Gly Thr Ile Trp Leu Asp Asp Met Arg Cys Lys Gly Asn Glu Ser
1265                1270 .                1275                1280
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274

Phe Leu Trp Asp Cys His Ala Lys Pro Trp Gly Gln Ser Asp Cys Gly
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His Lys Glu Asp Ala Gly Val Arg Cys Ser Gly Gln Ser Leu Lys Ser
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Leu Asn Ala Ser Ser Gly His
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<212> PRT
<213> Homo sapiens

<400> 385
Leu Ala Leu Ile Leu Ser Ser Ile Phe Gly Leu Leu Leu Leu Val Leu
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Phe Ile Leu Phe Leu Thr Trp Cys
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<212> PRT
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Arg Gly Ser Leu Glu Glu Asn Leu Phe His Glu Met Glu Thr Cys Leu
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Lys Arg Glu Asp Pro His Gly Thr Arg Thr Ser Asp Asp Thr Pro Asn
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His Gly Cys Glu Asp Ala Ser Asp Thr Ser Leu Leu Gly Val Leu Pro
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Ala Ser Glu Ala Thr Lys
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<210> 387
<211> 3104
<212> DNA

275

<213> Homo sapiens

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276

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<211> 2283
<212> DNA
<213> Homo sapiens

<400> 388
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277

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<211> 761
<212> PRT
<213> Homo sapiens

<400> 389
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               20                  25                  30


Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly Asp
            35                  40                  45


Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp Phe
         50                  55                  60


Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly Ala
 65                  70                  75                  80


Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro Arg
                 85                  90                  95


Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser Glu
            100                 105                 110


Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile
            115                 120                 125


Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly Thr
         130                 135                 140


Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr
145                 150                 155                 160


Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln Ser
                165                 170                 175


Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly Met
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Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu
        195   200   205

Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu
    210   215   220

Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr
225   230   235   240

Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe
                245   250   255

Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn Asp
        260   265   270

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys
        275   280   285

Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val Ile
    290   295   300

Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His Ile
305   310   315   320

Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser
                325   330   335

Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys Gly
        340   345   350

Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg
        355   360   365

Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro Ser
    370   375   380

Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu
385   390   395   400

Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr
                405   410   415

Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His Leu
        420   425   430

Val Met Tyr Leu Gly Thr Thr Thr Gly Ser Leu His Lys Ala Val Val

279

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              435                     440                     445

Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe Pro
    450                 455                 460

Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly Ala
465                 470                 475                 480

Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala Asn
                485                 490                 495

Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro
                500                 505                 510

His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser Ala
        515                 520                 525

Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu
    530                 535                 540

Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln Ser
545                 550                 555                 560

Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile Leu
                565                 570                 575

Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp Ser
                580                 585                 590

His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn Gly
        595                 600                 605

Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys
    610                 615                 620

Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val
625                 630                 635                 640

Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile
                645                 650                 655

Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala
        660                 665                 670

Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr
        675                 680                 685

Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala

                                280
```

```
              690                    695                    700


Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
705                  710                  715                  720


Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His Leu
                 725                  730                  735


Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala Asp
                 740                  745                  750


Asn Asn Cys Leu Gly Thr Glu Val Ala
         755                  760



<210> 390
<211> 31
<212> PRT
<213> Homo sapiens


<400> 390
Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly Leu
  1               5                  10                  15


Phe Leu Phe Gln Leu Leu Gln Leu Leu Leu Pro Thr Thr Thr Ala
             20                  25                  30



<210> 391
<211> 730
<212> PRT
<213> Homo sapiens


<400> 391
Gly Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly
  1               5                  10                  15


Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp
             20                  25                  30


Phe Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly
         35                  40                  45


Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro
    50                  55                  60


Arg Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser
 65                  70                  75                  80


                              281
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Glu Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe
                85   90   95

Ile Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly
            100   105   110

Thr Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser
        115   120   125

Tyr Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln
    130   135   140

Ser Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly
145   150   155   160

Met Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile
            165   170   175

Leu Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe
        180   185   190

Leu Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser
        195   200   205

Thr Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp
    210   215   220

Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn
225   230   235   240

Asp Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu
            245   250   255

Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val
        260   265   270

Ile Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His
        275   280   285

Ile Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser
    290   295   300

Ser Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys
305   310   315   320

Gly Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr
            325   330   335

```
Arg Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro
          340                 345                 350

Ser Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp
          355                 360                 365

Glu Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr
          370                 375                 380

Thr Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His
385                 390                 395                 400

Leu Val Met Tyr Leu Gly Thr Thr Thr Gly Ser Leu His Lys Ala Val
              405                 410                 415

Val Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe
          420                 425                 430

Pro Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly
          435                 440                 445

Ala Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala
          450                 455                 460

Asn Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp
465                 470                 475                 480

Pro His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser
              485                 490                 495

Ala Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro
          500                 505                 510

Glu Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln
          515                 520                 525

Ser Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile
          530                 535                 540

Leu Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp
545                 550                 555                 560

Ser His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn
              565                 570                 575

Gly Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln
          580                 585                 590

                              283
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```
Cys Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp
        595                 600                 605

Val Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly
        610                 615                 620

Ile Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly
625                 630                 635                 640

Ala Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val
                645                 650                 655

Thr Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val
        660                 665                 670

Ala Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys
        675                 680                 685

Glu Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His
        690                 695                 700

Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala
705                 710                 715                 720

Asp Asn Asn Cys Leu Gly Thr Glu Val Ala
                725                 730


<210> 392
<211> 652
<212> PRT
<213> Homo sapiens

<400> 392
Gly Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly
  1                 5                 10                  15

Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp
                20                  25                  30

Phe Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly
        35                  40                  45

Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro
        50                  55                  60

Arg Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser
```

284

```
        65                    70                    75                    80

    Glu Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe
                    85                    90                    95

    Ile Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly
                    100                   105                   110

    Thr Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser
                    115                   120                   125

    Tyr Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln
        130                   135                   140

    Ser Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly
    145                   150                   155                   160

    Met Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile
                    165                   170                   175

    Leu Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe
                    180                   185                   190

    Leu Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser
                    195                   200                   205

    Thr Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp
                    210                   215                   220

    Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn
    225                   230                   235                   240

    Asp Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu
                    245                   250                   255

    Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val
                    260                   265                   270

    Ile Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His
                    275                   280                   285

    Ile Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser
        290                   295                   300

    Ser Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys
    305                   310                   315                   320

    Gly Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr
```

285

Arg Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro
        340   345   350

Ser Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp
        355   360   365

Glu Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr
    370   375   380

Thr Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His
385   390   395   400

Leu Val Met Tyr Leu Gly Thr Thr Thr Gly Ser Leu His Lys Ala Val
            405   410   415

Val Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe
        420   425   430

Pro Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly
        435   440   445

Ala Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala
    450   455   460

Asn Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp
465   470   475   480

Pro His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser
            485   490   495

Ala Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro
        500   505   510

Glu Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln
        515   520   525

Ser Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile
    530   535   540

Leu Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp
545   550   555   560

Ser His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn
            565   570   575

Gly Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln

286

Cys Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp
        595   600   605

Val Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly
    610   615   620

Ile Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly
625   630   635   640

Ala Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His
                645   650

<210> 393
<211> 21
<212> PRT
<213> Homo sapiens

<400> 393
Phe Val Thr Val Thr Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu
  1   5   10   15

Ile Ile Leu Val Ala
            20

<210> 394
<211> 57
<212> PRT
<213> Homo sapiens

<400> 394
Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
  1   5   10   15

Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His Leu
            20   25   30

Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala Asp
            35   40   45

Asn Asn Cys Leu Gly Thr Glu Val Ala
        50   55

<210> 395

287

<400> 395
000

<210> 396
<400> 396
000

<210> 397
<400> 397
000

<210> 398
<400> 398
000

<210> 399
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<210> 400
<400> 400
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<210> 401
<400> 401
000

<210> 402
<400> 402
000

<210> 403
<211> 1980
<212> DNA
<213> Homo sapiens

<400> 403
gtcgacccac gcgtccgcag ctttggacac ttcctctgct tgaggacacc ttgactaacc 60
tccaagggca actaaaggat caagaaaggc ccagcacagc agaagatcag ctggatctag 120
ctcctgcagg agatgtgtac aaagacaatc ccagtcctct ggggatgttt cctcctgtgg 180

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aatctctatg tctcatcctc tcagaccatt taccctggaa tcaaggcaag gattactcag 240
agggcacttg actatggtgt tcaagctgga atgaagatga ttgagcaaat gctaaaagaa 300
aagaaactcc cagatttaag cggttctgag tctcttgaat ttctaaaagt tgattatgta 360
aactacaatt tttcaaatat aaaaatcagt gccttttcat ttccaaatac ctcattggct 420
tttgtgcctg gagtgggaat caaagcgcta accaaccatg gcactgccaa catcagcaca 480
gactgggggt tcgagtctcc acttttttgtt ctgtataact cctttgctga gcccatggag 540
aaacccattt taaagaactt aaatgaaatg ctctgtccca ttattgcaag tgaagtcaaa 600
gcgctaaatg ccaacctcag cacactggag gttttaacca agattgacaa ctacactctg 660
ctggattact ccctaatcag ttctccagaa attactgaga actaccttga cctgaacttg 720
aagggtgtat ctacccact ggaaaacctc accgaccccc ccttctcacc agttcctttt 780
gtgctcccag aacgcagcaa ctccatgctc tacattggaa tcgccgagta tttctttaaa 840
tctgcgtcct ttgctcattt cacagctggg gttttcaatc tcactctctc caccgaagag 900
atttccaacc attttgttca aaactctcaa ggccttggca acgtgctctc ccggattgca 960
gagatctaca tcttgtccca gcccttcatg gtgaggatca tggccacaga gcctcccata 1020
atcaatctac aaccaggcaa tttcacccctg gacatccctg cctccatcat gatgctcacc 1080
caacccaaga actccacagt tgaaaccatc gtttccatgg acttcgttgc tagtaccagt 1140
gttggcctgg ttattttggg acaaagactg gtctgctcct tgtctctgaa cagattccgc 1200
cttgctttgc cagagtccaa tcgcagcaac attgaggtct tgaggtttga aaatattcta 1260
tcgtccattc ttcactttgg agtcctccca ctggccaatg caaaattgca gcaaggattt 1320
cctctgccca atccacacaa attcttattc gtcaattcag atattgaagt tcttgagggt 1380
ttccttttga tttccaccga cctgaagtat gaaacatcct caaagcagca gccaagtttc 1440
cacgtatggg aaggtctgaa cctgataagc agacagtgga gggggaagtc agcccccttga 1500
ttgccggttt gcaattcacc ccaggaagta aatggtcctt aatcctacaa ctactgtaaa 1560
cccagaaggg aaagacagta cacactggaa ttgtaaagcc cttgtgaatt gcttaggcag 1620
aaagttttct ttcttaagcc ttcaggaacc cagaataagg cagactctgt taaagggata 1680
aatagaggtg tctgaatgtg agtgtatgca tgctgcgtgt gtctgtgttt atgtttgttt 1740
gtttgtttgg ggcaagaaag attctaggac aagagctagg catgtacttc tgaccaggtg 1800
ggtaagcaac tctaagtctg tatttgtatt ggtcattctc agtggaaatc ccttaggccc 1860
tctagtggtt ttcccctacc tgcatattgg ttttcatgtt ttatattcac tgttactatc 1920
ttctgtgttt aattaaaatt gttttctatc aaaaaaaaaa aaaaaaaaa gggcggccgc 1980
```

```
<210> 404
<211> 1365
<212> DNA
<213> Homo sapiens

<400> 404
atgtgtacaa agacaatccc agtcctctgg ggatgtttcc tcctgtggaa tctctatgtc 60
tcatcctctc agaccatttta ccctggaatc aaggcaagga ttactcagag ggcacttgac 120
tatggtgttc aagctggaat gaagatgatt gagcaaatgc taaaagaaaa gaaactccca 180
gatttaagcg gttctgagtc tcttgaattt ctaaaagttg attatgtaaa ctacaatttt 240
tcaaatataa aaatcagtgc cttttcattt ccaaatacct cattggcttt tgtgcctgga 300
gtgggaatca aagcgctaac caaccatggc actgccaaca tcagcacaga ctggggttc 360
gagtctccac tttttgttct gtataactcc tttgctgagc ccatggagaa acccatttta 420
aagaacttaa atgaaatgct ctgtcccatt attgcaagtg aagtcaaagc gctaaatgcc 480
aacctcagca cactggaggt tttaaccaag attgacaact acactctgct ggattactcc 540
ctaatcagtt ctccagaaat tactgagaac taccttgacc tgaacttgaa gggtgtattc 600
```

                                    289

```
tacccactgg aaaacctcac cgacccccc ttctcaccag ttccttttgt gctcccagaa 660
cgcagcaact ccatgctcta cattggaatc gccgagtatt tctttaaatc tgcgtccttt 720
gctcatttca cagctggggt tttcaatctc actctctcca ccgaagagat ttccaaccat 780
tttgttcaaa actctcaagg ccttggcaac gtgctctccc ggattgcaga gatctacatc 840
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tccacagttg aaaccatcgt ttccatggac ttcgttgcta gtaccagtgt tggcctggtt 1020
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gagtccaatc gcagcaacat tgaggtcttg aggtttgaaa atattctatc gtccattctt 1140
cactttggag tcctcccact ggccaatgca aaattgcagc aaggatttcc tctgcccaat 1200
ccacacaaat tcttattcgt caattcagat attgaagttc ttgagggttt cctttttgatt 1260
tccaccgacc tgaagtatga aacatcctca aagcagcagc caagtttcca cgtatgggaa 1320
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<210> 405
<211> 455
<212> PRT
<213> Homo sapiens

<400> 405
Met Cys Thr Lys Thr Ile Pro Val Leu Trp Gly Cys Phe Leu Leu Trp
 1               5                   10                  15


Asn Leu Tyr Val Ser Ser Ser Gln Thr Ile Tyr Pro Gly Ile Lys Ala
            20                  25                  30


Arg Ile Thr Gln Arg Ala Leu Asp Tyr Gly Val Gln Ala Gly Met Lys
        35                  40                  45


Met Ile Glu Gln Met Leu Lys Glu Lys Lys Leu Pro Asp Leu Ser Gly
    50                  55                  60


Ser Glu Ser Leu Glu Phe Leu Lys Val Asp Tyr Val Asn Tyr Asn Phe
65                  70                  75                  80


Ser Asn Ile Lys Ile Ser Ala Phe Ser Phe Pro Asn Thr Ser Leu Ala
                85                  90                  95


Phe Val Pro Gly Val Gly Ile Lys Ala Leu Thr Asn His Gly Thr Ala
            100                 105                 110


Asn Ile Ser Thr Asp Trp Gly Phe Glu Ser Pro Leu Phe Val Leu Tyr
        115                 120                 125


Asn Ser Phe Ala Glu Pro Met Glu Lys Pro Ile Leu Lys Asn Leu Asn
    130                 135                 140
```

290

```
Glu Met Leu Cys Pro Ile Ile Ala Ser Glu Val Lys Ala Leu Asn Ala
145                 150                 155                 160

Asn Leu Ser Thr Leu Glu Val Leu Thr Lys Ile Asp Asn Tyr Thr Leu
                165                 170                 175

Leu Asp Tyr Ser Leu Ile Ser Ser Pro Glu Ile Thr Glu Asn Tyr Leu
            180                 185                 190

Asp Leu Asn Leu Lys Gly Val Phe Tyr Pro Leu Glu Asn Leu Thr Asp
        195                 200                 205

Pro Pro Phe Ser Pro Val Pro Phe Val Leu Pro Glu Arg Ser Asn Ser
    210                 215                 220

Met Leu Tyr Ile Gly Ile Ala Glu Tyr Phe Phe Lys Ser Ala Ser Phe
225                 230                 235                 240

Ala His Phe Thr Ala Gly Val Phe Asn Leu Thr Leu Ser Thr Glu Glu
            245                 250                 255

Ile Ser Asn His Phe Val Gln Asn Ser Gln Gly Leu Gly Asn Val Leu
            260                 265                 270

Ser Arg Ile Ala Glu Ile Tyr Ile Leu Ser Gln Pro Phe Met Val Arg
        275                 280                 285

Ile Met Ala Thr Glu Pro Pro Ile Ile Asn Leu Gln Pro Gly Asn Phe
    290                 295                 300

Thr Leu Asp Ile Pro Ala Ser Ile Met Met Leu Thr Gln Pro Lys Asn
305                 310                 315                 320

Ser Thr Val Glu Thr Ile Val Ser Met Asp Phe Val Ala Ser Thr Ser
            325                 330                 335

Val Gly Leu Val Ile Leu Gly Gln Arg Leu Val Cys Ser Leu Ser Leu
            340                 345                 350

Asn Arg Phe Arg Leu Ala Leu Pro Glu Ser Asn Arg Ser Asn Ile Glu
        355                 360                 365

Val Leu Arg Phe Glu Asn Ile Leu Ser Ser Ile Leu His Phe Gly Val
    370                 375                 380

Leu Pro Leu Ala Asn Ala Lys Leu Gln Gln Gly Phe Pro Leu Pro Asn
385                 390                 395                 400
```

291

```
Pro His Lys Phe Leu Phe Val Asn Ser Asp Ile Glu Val Leu Glu Gly
                405                 410                 415

Phe Leu Leu Ile Ser Thr Asp Leu Lys Tyr Glu Thr Ser Ser Lys Gln
            420                 425                 430

Gln Pro Ser Phe His Val Trp Glu Gly Leu Asn Leu Ile Ser Arg Gln
        435                 440                 445

Trp Arg Gly Lys Ser Ala Pro
    450                 455
```

<210> 406
<211> 23
<212> PRT
<213> Homo sapiens

<400> 406
```
Met Cys Thr Lys Thr Ile Pro Val Leu Trp Gly Cys Phe Leu Leu Trp
 1               5                  10                  15

Asn Leu Tyr Val Ser Ser Ser
            20
```

<210> 407
<211> 432
<212> PRT
<213> Homo sapiens

<400> 407
```
Gln Thr Ile Tyr Pro Gly Ile Lys Ala Arg Ile Thr Gln Arg Ala Leu
 1               5                  10                  15

Asp Tyr Gly Val Gln Ala Gly Met Lys Met Ile Glu Gln Met Leu Lys
            20                  25                  30

Glu Lys Lys Leu Pro Asp Leu Ser Gly Ser Glu Ser Leu Glu Phe Leu
        35                  40                  45

Lys Val Asp Tyr Val Asn Tyr Asn Phe Ser Asn Ile Lys Ile Ser Ala
    50                  55                  60

Phe Ser Phe Pro Asn Thr Ser Leu Ala Phe Val Pro Gly Val Gly Ile
 65                  70                  75                  80

Lys Ala Leu Thr Asn His Gly Thr Ala Asn Ile Ser Thr Asp Trp Gly
```

Phe Glu Ser Pro Leu Phe Val Leu Tyr Asn Ser Phe Ala Glu Pro Met
            100   105   110

Glu Lys Pro Ile Leu Lys Asn Leu Asn Glu Met Leu Cys Pro Ile Ile
            115   120   125

Ala Ser Glu Val Lys Ala Leu Asn Ala Asn Leu Ser Thr Leu Glu Val
            130   135   140

Leu Thr Lys Ile Asp Asn Tyr Thr Leu Leu Asp Tyr Ser Leu Ile Ser
145   150   155   160

Ser Pro Glu Ile Thr Glu Asn Tyr Leu Asp Leu Asn Leu Lys Gly Val
                    165   170   175

Phe Tyr Pro Leu Glu Asn Leu Thr Asp Pro Pro Phe Ser Pro Val Pro
            180   185   190

Phe Val Leu Pro Glu Arg Ser Asn Ser Met Leu Tyr Ile Gly Ile Ala
            195   200   205

Glu Tyr Phe Phe Lys Ser Ala Ser Phe Ala His Phe Thr Ala Gly Val
            210   215   220

Phe Asn Leu Thr Leu Ser Thr Glu Glu Ile Ser Asn His Phe Val Gln
225   230   235   240

Asn Ser Gln Gly Leu Gly Asn Val Leu Ser Arg Ile Ala Glu Ile Tyr
                    245   250   255

Ile Leu Ser Gln Pro Phe Met Val Arg Ile Met Ala Thr Glu Pro Pro
            260   265   270

Ile Ile Asn Leu Gln Pro Gly Asn Phe Thr Leu Asp Ile Pro Ala Ser
            275   280   285

Ile Met Met Leu Thr Gln Pro Lys Asn Ser Thr Val Glu Thr Ile Val
            290   295   300

Ser Met Asp Phe Val Ala Ser Thr Ser Val Gly Leu Val Ile Leu Gly
305   310   315   320

Gln Arg Leu Val Cys Ser Leu Ser Leu Asn Arg Phe Arg Leu Ala Leu
                    325   330   335

Pro Glu Ser Asn Arg Ser Asn Ile Glu Val Leu Arg Phe Glu Asn Ile

                              293

Leu Ser Ser Ile Leu His Phe Gly Val Leu Pro Leu Ala Asn Ala Lys
        355   360   365

Leu Gln Gln Gly Phe Pro Leu Pro Asn Pro His Lys Phe Leu Phe Val
    370   375   380

Asn Ser Asp Ile Glu Val Leu Glu Gly Phe Leu Leu Ile Ser Thr Asp
385   390   395   400

Leu Lys Tyr Glu Thr Ser Ser Lys Gln Gln Pro Ser Phe His Val Trp
            405   410   415

Glu Gly Leu Asn Leu Ile Ser Arg Gln Trp Arg Gly Lys Ser Ala Pro
        420   425   430

<210> 408
<211> 483
<212> PRT
<213> Homo sapiens

<400> 408
Met Ala Arg Gly Pro Cys Asn Ala Pro Arg Trp Val Ser Leu Met Val
  1   5   10   15

Leu Val Ala Ile Gly Thr Ala Val Thr Ala Ala Val Asn Pro Gly Val
            20   25   30

Val Val Arg Ile Ser Gln Lys Gly Leu Asp Tyr Ala Ser Gln Gln Gly
        35   40   45

Thr Ala Ala Leu Gln Lys Glu Leu Lys Arg Ile Lys Ile Pro Asp Tyr
    50   55   60

Ser Asp Ser Phe Lys Ile Lys His Leu Gly Lys Gly His Tyr Ser Phe
65   70   75   80

Tyr Ser Met Asp Ile Arg Glu Phe Gln Leu Pro Ser Ser Gln Ile Ser
            85   90   95

Met Val Pro Asn Val Gly Leu Lys Phe Ser Ile Ser Asn Ala Asn Ile
            100   105   110

Lys Ile Ser Gly Lys Trp Lys Ala Gln Lys Arg Phe Leu Lys Met Ser
        115   120   125

Gly Asn Phe Asp Leu Ser Ile Glu Gly Met Ser Ile Ser Ala Asp Leu
        130   135   140

Lys Leu Gly Ser Asn Pro Thr Ser Gly Lys Pro Thr Ile Thr Cys Ser
145   150   155   160

Ser Cys Ser Ser His Ile Asn Ser Val His Val His Ile Ser Lys Ser
                165   170   175

Lys Val Gly Trp Leu Ile Gln Leu Phe His Lys Lys Ile Glu Ser Ala
            180   185   190

Leu Arg Asn Lys Met Asn Ser Gln Val Cys Glu Lys Val Thr Asn Ser
        195   200   205

Val Ser Ser Lys Leu Gln Pro Tyr Phe Gln Thr Leu Pro Val Met Thr
        210   215   220

Lys Ile Asp Ser Val Ala Gly Ile Asn Tyr Gly Leu Val Ala Pro Pro
225   230   235   240

Ala Thr Thr Ala Glu Thr Leu Asp Val Gln Met Lys Gly Glu Phe Tyr
            245   250   255

Ser Glu Asn His His Asn Pro Pro Pro Phe Ala Pro Pro Val Met Glu
            260   265   270

Phe Pro Ala Ala His Asp Arg Met Val Tyr Leu Gly Leu Ser Asp Tyr
        275   280   285

Phe Phe Asn Thr Ala Gly Leu Val Tyr Gln Glu Ala Gly Val Leu Lys
        290   295   300

Met Thr Leu Arg Asp Asp Met Ile Pro Lys Glu Ser Lys Phe Arg Leu
305   310   315   320

Thr Thr Lys Phe Phe Gly Thr Phe Leu Pro Glu Val Ala Lys Lys Phe
                325   330   335

Pro Asn Met Lys Ile Gln Ile His Val Ser Ala Ser Thr Pro Pro His
            340   345   350

Leu Ser Val Gln Pro Thr Gly Leu Thr Phe Tyr Pro Ala Val Asp Val
        355   360   365

295

Gln Ala Phe Ala Val Leu Pro Asn Ser Ser Leu Ala Ser Leu Phe Leu
     370   375   380

Ile Gly Met His Thr Thr Gly Ser Met Glu Val Ser Ala Glu Ser Asn
385   390   395   400

Arg Leu Val Gly Glu Leu Lys Leu Asp Arg Leu Leu Leu Glu Leu Lys
             405   410   415

His Ser Asn Ile Gly Pro Phe Pro Val Glu Leu Leu Gln Asp Ile Met
             420   425   430

Asn Tyr Ile Val Pro Ile Leu Val Leu Pro Arg Val Asn Glu Lys Leu
             435   440   445

Gln Lys Gly Phe Pro Leu Pro Thr Pro Ala Arg Val Gln Leu Tyr Asn
     450   455   460

Val Val Leu Gln Pro His Gln Asn Phe Leu Leu Phe Gly Ala Asp Val
465   470   475   480

Val Tyr Lys

<210> 409
<211> 481
<212> PRT
<213> Homo sapiens

<400> 409
Met Gly Ala Leu Ala Arg Ala Leu Pro Ser Ile Leu Leu Ala Leu Leu
  1   5   10   15

Leu Thr Ser Thr Pro Glu Ala Leu Gly Ala Asn Pro Gly Leu Val Ala
             20   25   30

Arg Ile Thr Asp Lys Gly Leu Gln Tyr Ala Ala Gln Glu Gly Leu Leu
             35   40   45

Ala Leu Gln Ser Glu Leu Leu Arg Ile Thr Leu Pro Asp Phe Thr Gly
     50   55   60

Asp Leu Arg Ile Pro His Val Gly Arg Gly Arg Tyr Glu Phe His Ser
65   70   75   80

Leu Asn Ile His Glu Phe Gln Leu Pro Ser Ser Gln Ile Ser Met Val
             85   90   95

296

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Pro Asn Val Gly Leu Lys Phe Ser Ile Ser Asn Ala Asn Ile Lys Ile
        100                 105                 110

Ser Gly Lys Trp Lys Ala Gln Lys Arg Phe Leu Lys Met Ser Gly Asn
        115                 120                 125

Phe Asp Leu Ser Ile Glu Gly Met Ser Ile Ser Ala Asp Leu Lys Leu
        130                 135                 140

Gly Ser Asn Pro Thr Ser Gly Lys Pro Thr Ile Thr Cys Ser Ser Cys
145                 150                 155                 160

Ser Ser His Ile Asn Ser Val His Val His Ile Ser Lys Ser Lys Val
                165                 170                 175

Gly Trp Leu Ile Gln Leu Phe His Lys Lys Ile Glu Ser Ala Leu Arg
                180                 185                 190

Asn Lys Met Asn Ser Gln Val Cys Glu Lys Val Thr Asn Ser Val Ser
                195                 200                 205

Ser Lys Leu Gln Pro Tyr Phe Gln Thr Leu Pro Val Met Thr Lys Ile
        210                 215                 220

Asp Ser Val Ala Gly Ile Asn Tyr Gly Leu Val Ala Pro Pro Ala Thr
225                 230                 235                 240

Thr Ala Glu Thr Leu Asp Val Gln Met Lys Gly Glu Phe Tyr Ser Glu
                245                 250                 255

Asn His His Asn Pro Pro Pro Phe Ala Pro Pro Val Met Glu Phe Pro
                260                 265                 270

Ala Ala His Asp Arg Met Val Tyr Leu Gly Leu Ser Asp Tyr Phe Phe
                275                 280                 285

Asn Thr Ala Gly Leu Val Tyr Gln Glu Ala Gly Val Leu Lys Met Thr
        290                 295                 300

Leu Arg Asp Asp Met Ile Pro Lys Glu Ser Lys Phe Arg Leu Thr Thr
305                 310                 315                 320

Lys Phe Phe Gly Thr Phe Leu Pro Glu Val Ala Lys Lys Phe Pro Asn
                325                 330                 335

Met Lys Ile Gln Ile His Val Ser Ala Ser Thr Pro Pro His Leu Ser
        340                 345                 350
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Val Gln Pro Thr Gly Leu Thr Phe Tyr Pro Ala Val Asp Val Gln Ala
        355   360   365

Leu Ala Val Leu Pro Asn Ser Ser Leu Ala Ser Leu Phe Leu Ile Gly
        370   375   380

Met His Thr Thr Gly Ser Met Glu Val Ser Ala Glu Ser Asn Arg Leu
385   390   395   400

Val Gly Glu Leu Lys Leu Asp Arg Leu Leu Leu Glu Leu Lys His Ser
                405   410   415

Asn Ile Gly Pro Phe Pro Val Glu Leu Leu Gln Asp Ile Met Asn Tyr   .
            420   425   430

Ile Val Pro Ile Leu Val Leu Pro Arg Val Asn Glu Lys Leu Gln Lys
            435   440   445

Gly Phe Pro Leu Pro Thr Pro Ala Arg Val Gln Leu Tyr Asn Val Val
    450   455   460

Leu Gln Pro His Gln Asn Phe Leu Leu Phe Gly Ala Asp Val Val Tyr
465   470   475   480

Lys

<210> 410
<211> 383
<212> PRT
<213> Homo sapiens

<400> 410
Met Arg Ile Ala His Ala Ser Ser Arg Gly Asn Ile Ser Ile Phe Ser   .
  1   5   10   15

Val Phe Leu Ile Pro Leu Ile Ala Tyr Ile Leu Ile Leu Pro Gly Val
            20   25   30

Arg Arg Lys Arg Val Val Thr Thr Val Thr Tyr Val Leu Met Leu Ala
            35   40   45

Val Gly Gly Ala Leu Ile Ala Ser Leu Ile Tyr Pro Cys Trp Ala Ser
    50   55   60

Gly Ser Gln Met Ile Tyr Thr Gln Phe Arg Gly His Ser Asn Glu Arg

298

Ile Leu Ala Lys Ile Gly Val Glu Ile Gly Leu Gln Lys Val Asn Val
              85   90   95

Thr Leu Lys Phe Glu Arg Leu Leu Ser Ser Asn Asp Val Leu Pro Gly
              100   105   110

Ser Asp Met Thr Glu Leu Tyr Tyr Asn Glu Gly Phe Asp Ile Ser Gly
              115   120   125

Ile Ser Ser Met Ala Glu Ala Leu His His Gly Leu Glu Asn Gly Leu
    130   135   140

Pro Tyr Pro Met Leu Ser Val Leu Glu Tyr Phe Ser Leu Asn Gln Asp
145   150   155   160

Ser Phe Asp Trp Gly Arg His Tyr Arg Val Ala Gly His Tyr Thr His
              165   170   175

Ala Ala Ile Trp Phe Ala Phe Ala Cys Trp Cys Leu Ser Val Val Leu
              180   185   190

Met Leu Phe Leu Pro His Asn Ala Tyr Lys Ser Ile Leu Ala Thr Gly
              195   200   205

Ile Ser Cys Leu Ile Ala Cys Leu Val Tyr Leu Leu Leu Ser Pro Cys
    210   215   220

Glu Leu Arg Ile Ala Phe Thr Gly Glu Asn Phe Glu Arg Val Asp Leu
225   230   235   240

Thr Ala Thr Phe Ser Phe Cys Phe Tyr Leu Ile Phe Ala Ile Gly Ile
              245   250   255

Leu Cys Val Leu Cys Gly Leu Gly Leu Gly Ile Cys Glu His Trp Arg
              260   265   270

Ile Tyr Thr Leu Ser Thr Phe Leu Asp Ala Ser Leu Asp Glu His Val
              275   280   285

Gly Pro Lys Trp Lys Lys Leu Pro Thr Gly Gly Pro Ala Leu Gln Gly
    290   295   300

Val Gln Ile Gly Ala Tyr Gly Thr Asn Thr Thr Asn Ser Ser Arg Asp
305   310   315   320

Lys Asn Asp Ile Ser Ser Asp Lys Thr Ala Gly Ser Ser Gly Phe Gln

Ser Arg Thr Ser Thr Cys Gln Ser Ser Ala Ser Ser Ala Ser Leu Arg
            340   345   350

Ser Gln Ser Ser Ile Glu Thr Val His Asp Glu Ala Glu Leu Glu Arg
            355   360   365

Thr His Val His Phe Leu Gln Glu Pro Cys Ser Ser Ser Ser Thr
    370   375   380

<210> 411
<211> 399
<212> PRT
<213> Homo sapiens

<400> 411
Met Lys Met Arg Phe Leu Gly Leu Val Val Cys Leu Val Leu Trp Pro
    1   5   10   15

Leu His Ser Glu Gly Ser Gly Gly Lys Leu Thr Ala Val Asp Pro Glu
                20   25   30

Thr Asn Met Asn Val Ser Glu Ile Ile Ser Tyr Trp Gly Phe Pro Ser
            35   40   45

Glu Glu Tyr Leu Val Glu Thr Glu Asp Gly Tyr Ile Leu Cys Leu Asn
    50   55   60

Arg Ile Pro His Gly Arg Lys Asn His Ser Asp Lys Gly Pro Lys Pro
65   70   75   80

Val Val Phe Leu Gln His Gly Leu Leu Ala Asp Ser Ser Asn Trp Val
                85   90   95

Thr Asn Leu Ala Asn Ser Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly
            100   105   110

Phe Asp Val Trp Met Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Lys
            115   120   125

His Lys Thr Leu Ser Val Ser Gln Asp Glu Phe Trp Ala Phe Ser Tyr
    130   135   140

Asp Glu Met Ala Lys Tyr Asp Leu Pro Ala Ser Ile Asn Phe Ile Leu
145   150   155   160

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Asn Lys Thr Gly Gln Glu Gln Val Tyr Tyr Val Gly His Ser Gln Gly
              165                 170                 175

Thr Thr Ile Gly Phe Ile Ala Phe Ser Gln Ile Pro Glu Leu Ala Lys
              180                 185                 190

Arg Ile Lys Met Phe Phe Ala Leu Gly Pro Val Ala Ser Val Ala Phe
              195                 200                 205

Cys Thr Ser Pro Met Ala Lys Leu Gly Arg Leu Pro Asp His Leu Ile
              210                 215                 220

Lys Asp Leu Phe Gly Asp Lys Glu Phe Leu Pro Gln Ser Ala Phe Leu
225                 230                 235                 240

Lys Trp Leu Gly Thr His Val Cys Thr His Val Ile Leu Lys Glu Leu
              245                 250                 255

Cys Gly Asn Leu Cys Phe Leu Leu Cys Gly Phe Asn Glu Arg Asn Leu
              260                 265                 270

Asn Met Ser Arg Val Asp Val Tyr Thr Thr His Ser Pro Ala Gly Thr
              275                 280                 285

Ser Val Gln Asn Met Leu His Trp Ser Gln Ala Val Lys Phe Gln Lys
              290                 295                 300

Phe Gln Ala Phe Asp Trp Gly Ser Ser Ala Lys Asn Tyr Phe His Tyr
305                 310                 315                 320

Asn Gln Ser Tyr Pro Pro Thr Tyr Asn Val Lys Asp Met Leu Val Pro
              325                 330                 335

Thr Ala Val Trp Ser Gly Gly His Asp Trp Leu Ala Asp Val Tyr Asp
              340                 345                 350

Val Asn Ile Leu Leu Thr Gln Ile Thr Asn Leu Val Phe His Glu Ser
              355                 360                 365

Ile Pro Glu Trp Glu His Leu Asp Phe Ile Trp Gly Leu Asp Ala Pro
              370                 375                 380

Trp Arg Leu Tyr Asn Lys Ile Ile Asn Leu Met Arg Lys Tyr Gln
385                 390                 395
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<210> 412
<211> 19

301

<212> PRT
<213> Homo sapiens

<400> 412
Met Ala Pro Pro Ala Ala Arg Leu Ala Leu Leu Ser Ala Ala Ala Leu
1   5   10   15

Thr Leu Ala

<210> 413
<211> 451
<212> PRT
<213> Homo sapiens

<400> 413
Ala Arg Pro Ala Pro Gly Pro Arg Ser Gly Pro Glu Cys Phe Thr Ala
1   5   10   15

Asn Gly Ala Asp Tyr Arg Gly Thr Gln Ser Trp Thr Ala Leu Gln Gly
            20   25   30

Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His Pro Tyr Asn
        35   40   45

Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu His Asn Tyr
    50   55   60

Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr Val Ala Glu
65   70   75   80

His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro Ala Cys Gln
                85   90   95

Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro Pro Pro
            100   105   110

Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile Gln Thr Cys
        115   120   125

Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met Glu Ser
    130   135   140

Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp Lys His Gly
145   150   155   160

Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly Asp His Thr

302

Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp Thr Leu Val
            180   185   190

Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ala Ala Val Val Tyr Ser
            195   200   205

Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys Tyr Trp Thr
    210   215   220

Ile Arg Val Pro Gly Ala Ser Arg Ile His Phe Asn Phe Thr Leu Phe
225   230   235   240

Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp Gly Tyr Thr
            245   250   255

His Arg Val Leu Val Arg Leu Ser Gly Arg Ser Arg Pro Pro Leu Ser
            260   265   270

Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe Ser Asp Arg
            275   280   285

Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala Thr Lys Glu
    290   295   300

Glu Pro Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Leu Ala Glu Val
305   310   315   320

Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala His Ser Ser Lys
            325   330   335

Val Leu Tyr Val Ile Thr Pro Ser Pro Ser His Pro Pro Gln Thr Ala
            340   345   350

Gln Val Ala Ile Pro Gly His Arg Gln Leu Gly Pro Thr Ala Thr Glu
            355   360   365

Trp Lys Asp Gly Leu Cys Thr Ala Trp Arg Pro Ser Ser Ser Ser Gln
    370   375   380

Ser Gln Gln Leu Ser Gln Arg Phe Phe Cys Met Ser His Leu Asn Leu
385   390   395   400

Ile Glu Ser Leu His Gln Glu Thr Leu Gly Thr Val Val Ser Leu Gly
            405   410   415

Leu Leu Glu Ile Ser Gly Pro Phe Ser Met Asn Leu Pro Leu Gln Ser

303

Pro Ser Leu Arg Arg Ser Ser Arg Val Arg Val Asn Lys Met Thr Ala
        435   440   445

Ile Pro Ser
    450

<210> 414
<211> 150
<212> PRT
<213> Homo sapiens

<400> 414
Lys Lys His Cys Trp Tyr Phe Glu Gly Leu Tyr Pro Thr Tyr Tyr Ile
  1   5   10   15

Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser Arg Cys Cys Val Arg Ala
            20   25   30

Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp Phe Leu Leu Met Met Gly
        35   40   45

Val Leu Phe Cys Cys Gly Ala Gly Phe Phe Ile Arg Arg Arg Met Tyr
    50   55   60

Pro Pro Pro Leu Ile Glu Glu Pro Thr Phe Asn Val Ser Tyr Thr Arg
65   70   75   80

Gln Pro Pro Asn Pro Ala Pro Gly Ala Gln Gln Met Gly Pro Pro Tyr
            85   90   95

Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro Val Gly Asn Thr Met
            100   105   110

Ala Met Ala Phe Gln Val Gln Pro Asn Ser Pro His Gly Gly Thr Thr
            115   120   125

Tyr Pro Pro Pro Pro Ser Tyr Cys Asn Thr Pro Pro Pro Tyr Glu
        130   135   140

Gln Val Val Lys Asp Lys
145   150

<210> 415
<211> 2044

<212> DNA
<213> Homo sapiens

<400> 415
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ttctgattct ggtggcgtat atgttccaga gaaatgtgaa ttcagtacat atgccaacta 240
aagctgtgga cccagaagca ttcatgaata ttagtgaaat catccaacat caaggctatc 300
cctgtgagga atatgaagtc gcaactgaag atgggtatat cctttctgtt aacaggattc 360
ctcgaggcct agtgcaacct aagaagacag gttccaggcc tgtggtgtta ctgcagcatg 420
gcctagttgg aggtgctagc aactggattt ccaacctgcc caacaatagc ctgggcttca 480
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tttgtggcca ggtgattctt gatcagattt gtagtaatat catgttactt ctgggtggat 960
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tgtacaatga aatcatccat ctgatgcagc aggaggagac caacctttcc cagggacggt 1380
gtgaggccgt attgtgaagc atctgacact gacgatctta ggacaacctc ctgagggatg 1440
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aggttttacc tgatagccag aaaatatcta gacattctct atatcattca ggtaaatctc 1680
tttaaaacac ctattgtttt ttctataagc catattttttg gagcactaaa gtaaaatggc 1740
aaattgggac agatattgag gtctggagtc tgtggattat tgttgacttt gacaaaataa 1800
gctagacatt ttcaccttgt tgccacagag acataacact acctcaggaa gctgagctgc 1860
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ctcagaataa ggccaagttt tatagttgca tctcagggaa gaaatttta taggatgttt 1980
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ccgc   2044

<210> 416
<211> 1269
<212> DNA
<213> Homo sapiens

<400> 416
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<210> 417
<211> 423
<212> PRT
<213> Homo sapiens

<400> 417

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Met Leu Glu Thr Leu Ser Arg Gln Trp Ile Val Ser His Arg Met Glu
  1               5                  10                  15

Met Trp Leu Leu Ile Leu Val Ala Tyr Met Phe Gln Arg Asn Val Asn
             20                  25                  30

Ser Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn
         35                  40                  45

Ile Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu
     50                  55                  60

Val Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg
 65                  70                  75                  80

Gly Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu
                 85                  90                  95

Gln His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro
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100   105   110

Asn Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp
        115   120   125

Met Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu
        130   135   140

Ser Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala
145   150   155   160

Arg Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly
                165   170   175

Gln Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly
                180   185   190

Phe Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met
        195   200   205

Tyr Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro
        210   215   220

Gly Thr Lys Phe Leu Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe
225   230   235   240

Gly Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln Leu Val
                245   250   255

Ile Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser Asn Ile
        260   265   270

Met Leu Leu Leu Gly Gly Phe Asn Thr Asn Asn Met Asn Met Ser Arg
        275   280   285

Ala Ser Val Tyr Ala Ala His Thr Leu Ala Gly Thr Ser Val Gln Asn
        290   295   300

Ile Leu His Trp Ser Gln Ala Val Asn Ser Gly Glu Leu Arg Ala Phe
305   310   315   320

Asp Trp Gly Ser Glu Thr Lys Asn Leu Glu Lys Cys Asn Gln Pro Thr
                325   330   335

Pro Val Arg Tyr Arg Val Arg Asp Met Thr Val Pro Thr Ala Met Trp
                340   345   350

Thr Gly Gly Gln Asp Trp Leu Ser Asn Pro Glu Asp Val Lys Met Leu

                                   307

Leu Ser Glu Val Thr Asn Leu Ile Tyr His Lys Asn Ile Pro Glu Trp
   370   375   380

Ala His Val Asp Phe Ile Trp Gly Leu Asp Ala Pro His Arg Met Tyr
385   390   395   400

Asn Glu Ile Ile His Leu Met Gln Gln Glu Glu Thr Asn Leu Ser Gln
            405   410   415

Gly Arg Cys Glu Ala Val Leu
          420

<210> 418
<211> 33
<212> PRT
<213> Homo sapiens

<400> 418
Met Leu Glu Thr Leu Ser Arg Gln Trp Ile Val Ser His Arg Met Glu
  1   5   10   15

Met Trp Leu Leu Ile Leu Val Ala Tyr Met Phe Gln Arg Asn Val Asn
           20   25   30

Ser

<210> 419
<211> 390
<212> PRT
<213> Homo sapiens

<400> 419
Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn Ile
  1   5   10   15

Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu Val
           20   25   30

Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg Gly
           35   40   45

Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu Gln
   50   55   60

His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro Asn
65   70   75   80

Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp Met
                85   90   95

Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu Ser
                100   105   110

Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala Arg
            115   120   125

Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly Gln
        130   135   140

Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly Phe
145   150   155   160

Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met Tyr
                165   170   175

Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro Gly
            180   185   190

Thr Lys Phe Leu Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe Gly
            195   200   205

Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln Leu Val Ile
        210   215   220

Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser Asn Ile Met
225   230   235   240

Leu Leu Leu Gly Gly Phe Asn Thr Asn Asn Met Asn Met Ser Arg Ala
                245   250   255

Ser Val Tyr Ala Ala His Thr Leu Ala Gly Thr Ser Val Gln Asn Ile
            260   265   270

Leu His Trp Ser Gln Ala Val Asn Ser Gly Glu Leu Arg Ala Phe Asp
        275   280   285

Trp Gly Ser Glu Thr Lys Asn Leu Glu Lys Cys Asn Gln Pro Thr Pro
    290   295   300

Val Arg Tyr Arg Val Arg Asp Met Thr Val Pro Thr Ala Met Trp Thr
305   310   315   320

309

Gly Gly Gln Asp Trp Leu Ser Asn Pro Glu Asp Val Lys Met Leu Leu
            325   330   335

Ser Glu Val Thr Asn Leu Ile Tyr His Lys Asn Ile Pro Glu Trp Ala
            340   345   350

His Val Asp Phe Ile Trp Gly Leu Asp Ala Pro His Arg Met Tyr Asn
        355   360   365

Glu Ile Ile His Leu Met Gln Gln Glu Glu Thr Asn Leu Ser Gln Gly
    370   375   380

Arg Cys Glu Ala Val Leu
385   390

<210> 420
<211> 221
<212> PRT
<213> Homo sapiens

<400> 420
Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn Ile
    1   5   10   15

Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu Val
            20   25   30

Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg Gly
            35   40   45

Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu Gln
        50   55   60

His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro Asn
    65   70   75   80

Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp Met
                85   90   95

Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu Ser
            100   105   110

Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala Arg
        115   120   125

Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly Gln

310

Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly Phe
145   150   155   160

Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met Tyr
                     165   170   175

Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro Gly
                180   185   190

Thr Lys Phe Leu Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe Gly
          195   200   205

Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln
     210   215   220

<210> 421
<211> 25
<212> PRT
<213> Homo sapiens

<400> 421
Leu Val Ile Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser
  1   5   10   15

Asn Ile Met Leu Leu Leu Gly Gly Phe
             20   25

<210> 422
<211> 144
<212> PRT
<213> Homo sapiens

<400> 422
Asn Thr Asn Asn Met Asn Met Ser Arg Ala Ser Val Tyr Ala Ala His
  1   5   10   15

Thr Leu Ala Gly Thr Ser Val Gln Asn Ile Leu His Trp Ser Gln Ala
             20   25   30

Val Asn Ser Gly Glu Leu Arg Ala Phe Asp Trp Gly Ser Glu Thr Lys
          35   40   45

Asn Leu Glu Lys Cys Asn Gln Pro Thr Pro Val Arg Tyr Arg Val Arg
     50   55   60

311

```
Asp Met Thr Val Pro Thr Ala Met Trp Thr Gly Gly Gln Asp Trp Leu
 65                 70                 75                     80

Ser Asn Pro Glu Asp Val Lys Met Leu Leu Ser Glu Val Thr Asn Leu
                85                 90                     95

Ile Tyr His Lys Asn Ile Pro Glu Trp Ala His Val Asp Phe Ile Trp
            100                 105                 110

Gly Leu Asp Ala Pro His Arg Met Tyr Asn Glu Ile Ile His Leu Met
        115                 120                 125

Gln Gln Glu Glu Thr Asn Leu Ser Gln Gly Arg Cys Glu Ala Val Leu
    130                 135                 140
```

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<210> 423
<211> 2133
<212> DNA
<213> Homo sapiens

<400> 423
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ttcccgatgg acaccacttt ggccagcatc atcatgatct ttctgactgc actggccacg 180
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gtgggccagg tcagcaccaa cacatcatac aaggccttca gttctgagtg gatcagcgct 360
gatattgggc tgcaggtcgg gctgggtgga gtcaacatca cactcacagg acccccgtg 420
cagcagctga atgagaccat caattacaac gaggagttca cctggcgcct gggtgagaac 480
tatgctgagg agtgtgcaaa ggctctggag aaggggctgc agaccctgt gttgtaccta 540
gctgagaagt tcactccaag aagcccatgt ggcctatacc gccagtaccg cctggcggga 600
cactacacct cagccatgct atgggtggca ttcctctgct ggctgctggc caatgtgatg 660
ctctccatgc ctgtgctggt atatggtggc tacatgctat ggccacggg catcttccag 720
ctgttggctc tgctcttctt ctccatggcc acatcactca cctcaccctg tccctgcac 780
ctgggcgctt ctgtgctgca tactcaccat gggcctgcct ctggatcac attgaccaca 840
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gacattcccc tgtcagaggc ttcctccacc aaggcatact gtaaggaggc acaccccaaa 1080
gatcctgatt gtgctttata acattcctcc ccgtggaggc cacctggact tccagtctgg 1140
ctccaaacct cattggcgcc ccataaaacc agcagaactg ccctcagggt ggctgttacc 1200
agacacccag caccaatcta cagacggagt agaaaaagga ggctctatat actgatgtta 1260
aaaaacaaaa caaaacaaaa agccctaagg gactgaagag atgctgggcc tgtccataaa 1320
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312

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gcctgttgcc atgataaggc caagcagggg ctagcttatc tgcacagcaa cccagccttt 1380
ccgtgctgcc ttgcctcttc aagatgctat tcactgaaac ctaacttcac ccccataaca 1440
ccagcaggt gggggttaca tatgattctc ctatggtttc ctctcatccc tcggcacctc 1500
ttgttttcct ttttcctggg ttccttttgt tcttcctttа cttctccagc ttgtgtggcc 1560
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cttggccctc aaacaccacc tcacaagaag ccaggtggga agttagggaa tcaactccaa 1800
aacgctattc cttcccaccc cactcagctg ggctagctga gtggcatcca ggacggggga 1860
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gcagagaatc aggtttcaca gcactgcgga gagtgtacta ggctgtctcc agcccagcga 2040
agctcatgag gacgtgcgac cccggcgcgg agaagccatg aaaattaatg ggaaaaacag 2100
tttttaaaaa aaaaaaaaaa aaagggcggc cgc                            2133


<210> 424
<211> 1029
<212> DNA
<213> Homo sapiens

<400> 424
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atcctgcctg gcattcgggg aaagacgagg ctgttctggc tgcttcgggt ggtgaccagc 180
ttattcatcg gggctgcaat cctggctgtg aatttcagtt ctgagtggtc tgtgggccag 240
gtcagcacca acacatcata caaggccttc agttctgagt ggatcagcgc tgatattggg 300
ctgcaggtcg ggctgggtgg agtcaacatc acactcacag gacccccgt gcagcagctg 360
aatgagacca tcaattacaa cgaggagttc acctggcgcc tgggtgagaa ctatgctgag 420
gagtgtgcaa aggctctgga aaggggctg ccagaccctg tgttgtacct agctgagaag 480
ttcactccaa gaagcccatg tggcctatac cgccagtacc gcctggcggg acactacacc 540
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<210> 425
<211> 343
<212> PRT
<213> Homo sapiens

<400> 425
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Met Ala Thr Leu Gly His Thr Phe Pro Phe Tyr Ala Gly Pro Lys Pro
 1               5                  10                  15

Thr Phe Pro Met Asp Thr Thr Leu Ala Ser Ile Ile Met Ile Phe Leu
            20                  25                  30

Thr Ala Leu Ala Thr Phe Ile Val Ile Leu Pro Gly Ile Arg Gly Lys
        35                  40                  45

Thr Arg Leu Phe Trp Leu Leu Arg Val Val Thr Ser Leu Phe Ile Gly
        50                  55                  60

Ala Ala Ile Leu Ala Val Asn Phe Ser Ser Glu Trp Ser Val Gly Gln
 65                  70                  75                  80

Val Ser Thr Asn Thr Ser Tyr Lys Ala Phe Ser Ser Glu Trp Ile Ser
                85                  90                  95

Ala Asp Ile Gly Leu Gln Val Gly Leu Gly Gly Val Asn Ile Thr Leu
            100                 105                 110

Thr Gly Thr Pro Val Gln Gln Leu Asn Glu Thr Ile Asn Tyr Asn Glu
            115                 120                 125

Glu Phe Thr Trp Arg Leu Gly Glu Asn Tyr Ala Glu Glu Cys Ala Lys
            130                 135                 140

Ala Leu Glu Lys Gly Leu Pro Asp Pro Val Leu Tyr Leu Ala Glu Lys
145                 150                 155                 160

Phe Thr Pro Arg Ser Pro Cys Gly Leu Tyr Arg Gln Tyr Arg Leu Ala
            165                 170                 175

Gly His Tyr Thr Ser Ala Met Leu Trp Val Ala Phe Leu Cys Trp Leu
            180                 185                 190

Leu Ala Asn Val Met Leu Ser Met Pro Val Leu Val Tyr Gly Gly Tyr
            195                 200                 205

Met Leu Leu Ala Thr Gly Ile Phe Gln Leu Leu Ala Leu Leu Phe Phe
    210                 215                 220

Ser Met Ala Thr Ser Leu Thr Ser Pro Cys Pro Leu His Leu Gly Ala
225                 230                 235                 240

Ser Val Leu His Thr His His Gly Pro Ala Phe Trp Ile Thr Leu Thr
                245                 250                 255
```

314

Thr Gly Leu Leu Cys Val Leu Leu Gly Leu Ala Met Ala Val Ala His
            260   265   270

Arg Met Gln Pro His Arg Leu Lys Ala Phe Phe Asn Gln Ser Val Asp
            275   280   285

Glu Asp Pro Met Leu Glu Trp Ser Pro Glu Glu Gly Gly Leu Leu Ser
        290   295   300

Pro Arg Tyr Arg Ser Met Ala Asp Ser Pro Lys Ser Gln Asp Ile Pro
305   310   315   320

Leu Ser Glu Ala Ser Ser Thr Lys Ala Tyr Cys Lys Glu Ala His Pro
                325   330   335

Lys Asp Pro Asp Cys Ala Leu
            340

<210> 426
<211> 23
<212> PRT
<213> Homo sapiens

<400> 426
Met Ala Thr Leu Gly His Thr Phe Pro Phe Tyr Ala Gly Pro Lys Pro
  1   5   10   15

Thr Phe Pro Met Asp Thr Thr
            20

<210> 427
<211> 112
<212> PRT
<213> Homo sapiens

<400> 427
Asn Phe Ser Ser Glu Trp Ser Val Gly Gln Val Ser Thr Asn Thr Ser
  1   5   10   15

Tyr Lys Ala Phe Ser Ser Glu Trp Ile Ser Ala Asp Ile Gly Leu Gln
            20   25   30

Val Gly Leu Gly Gly Val Asn Ile Thr Leu Thr Gly Thr Pro Val Gln
        35   40   45

Gln Leu Asn Glu Thr Ile Asn Tyr Asn Glu Glu Phe Thr Trp Arg Leu

315

```
         50                    55                      60

Gly Glu Asn Tyr Ala Glu Glu Cys Ala Lys Ala Leu Glu Lys Gly Leu
 65                  70                  75                  80

Pro Asp Pro Val Leu Tyr Leu Ala Glu Lys Phe Thr Pro Arg Ser Pro
                 85                  90                  95

Cys Gly Leu Tyr Arg Gln Tyr Arg Leu Ala Gly His Tyr Thr Ser Ala
                100                 105                 110




<210> 428
<211> 22
<212> PRT
<213> Homo sapiens

<400> 428
Thr Ser Leu Thr Ser Pro Cys Pro Leu His Leu Gly Ala Ser Val Leu
 1               5                  10                  15

His Thr His His Gly Pro
                 20




<210> 429
<211> 19
<212> PRT
<213> Homo sapiens

<400> 429
Leu Ala Ser Ile Ile Met Ile Phe Leu Thr Ala Leu Ala Thr Phe Ile
 1               5                  10                  15

Val Ile Leu




<210> 430
<211> 20
<212> PRT
<213> Homo sapiens

<400> 430
Leu Phe Trp Leu Leu Arg Val Val Thr Ser Leu Phe Ile Gly Ala Ala
```

Ile Leu Ala Val
                  20

<210> 431
<211> 22
<212> PRT
<213> Homo sapiens

<400> 431
Met Leu Trp Val Ala Phe Leu Cys Trp Leu Leu Ala Asn Val Met Leu
  1   5   10   15

Ser Met Pro Val Leu Val
                  20

<210> 432
<211> 17
<212> PRT
<213> Homo sapiens

<400> 432
Leu Ala Thr Gly Ile Phe Gln Leu Leu Ala Leu Leu Phe Phe Ser Met
  1   5   10   15

Ala

<210> 433
<211> 22
<212> PRT
<213> Homo sapiens

<400> 433
Ala Phe Trp Ile Thr Leu Thr Thr Gly Leu Leu Cys Val Leu Leu Gly
  1   5   10   15

Leu Ala Met Ala Val Ala
                  20

<210> 434
<211> 8
<212> PRT

<213> Homo sapiens

<400> 434
Pro Gly Ile Arg Gly Lys Thr Arg
  1   5

<210> 435
<211> 6
<212> PRT
<213> Homo sapiens

<400> 435
Tyr Gly Gly Tyr Met Leu
  1   5

<210> 436
<211> 72
<212> PRT
<213> Homo sapiens

<400> 436
His Arg Met Gln Pro His Arg Leu Lys Ala Phe Phe Asn Gln Ser Val
  1   5   10   15

Asp Glu Asp Pro Met Leu Glu Trp Ser Pro Glu Glu Gly Gly Leu Leu
              20   25   30

Ser Pro Arg Tyr Arg Ser Met Ala Asp Ser Pro Lys Ser Gln Asp Ile
          35   40   45

Pro Leu Ser Glu Ala Ser Ser Thr Lys Ala Tyr Cys Lys Glu Ala His
      50   55   60

Pro Lys Asp Pro Asp Cys Ala Leu
  65   70

<210> 437
<211> 4928
<212> DNA
<213> Mus sp.

<400> 437
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ctgcgctcac tctggcggcc cggcccgcgc ccggtccccg ctccggcccc gagtgcttca 180

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gggaaggagg actgggcgag cacaattatt gcagaaatcc agatggagac gtgagccctt 360
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gccagatgcc tggaaacctt ggctgctaca aggatcatgg aaacccacct cctctcacgg 480
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319

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gtggccgaag gtgtagatcc agcgagggag ctgccatccc cgccaccttc atagcagcaa 4620
gaccttccca tttccaatct caccctccag cagggatatg actttggaca caaggctttt 4680
atttgtaaat atgctcttaa tatgcaactt tgagaataag atagaaacat catgtatttt 4740
aaaatataaa atgaagtgtg acacactgta tacaatttaa tatatatttt taggattttg 4800
ttatttaaga aaatggaatg tgatggtact taacttttac aaaagagaga aaatgttatt 4860
tttactgttt gaagaaaata aatattctca ttgttgtaga aaaaaaaaaa aaaaaaagg 4920
gcggccgc                                                        4928


<210> 438
<211> 1410
<212> DNA
<213> Mus sp.

<400> 438
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cggcccgcgc ccggtccccg ctccggcccc gagtgcttca gccaacggg tgcagattac 120
agggaacac agagctggac agcgctgcaa ggtgggaagc catgtctgtt ctggaacgag 180
actttccagc atccgtacaa cacgctgaag tacccaacg gggaaggagg actgggcgag 240
cacaattatt gcagaaatcc agatggagac gtgagccctt ggtgctacgt ggccgagcat 300
gaggacggag tctactggaa gtactgtgaa attctgcct gccagatgcc tggaaacctt 360
ggctgctaca aggatcatgg aaacccacct cctctcacgg gcaccagtaa aacctctaac 420
aagctcacca tacaaacctg tatcagcttc tgtcggagtc agagattcaa gtttgctggg 480
```

                                320

```
atggagtcag gctatgcctg cttctgtggg aacaatcctg actactggaa gcacggggag 540
gcggccagca ccgagtgcaa tagtgtctgc ttcggggacc acacgcagcc ctgcggtggg 600
gacggcagga ttatcctctt tgacactctc gtgggcgcct gcggtgggaa ctactcagcc 660
atggcagccg tggtgtactc ccctgacttc cctgacacct acgccactgg cagagtctgc 720
tactggacca tccgggttcc aggagcctct cgcatccatt tcaacttcac cctgtttgat 780
atcagggact ctgcagacat ggtggagctg ctggacggct acacccaccg cgtcctggtc 840
cggctcagtg ggaggagccg cccgcctctg tctttcaatg tctctctgga ttttgtcatt 900
ttgtatttct tctctgatcg catcaatcag gcccagggat ttgctgtgtt gtaccaagcc 960
accaaggagg aaccgccaca ggagagacct gctgtcaacc agaccctggc agaggtgatc 1020
accgagcaag ccaacctcag tgtcagcgct gcccactcct ccaaagtcct ctatgtcatc 1080
accccccagcc ccagccaccc tccgcagact gcccaggtag ccattcctgg gcaccgtcag 1140
ttggggccaa cagccacaga gtggaaggat ggactgtgta cggcctggcg accctcctca 1200
tcctcacagt cacagcagtt gtcgcaaaga ttcttctgca tgtcacattt aaatctcatc 1260
gagtccctgc atcaggagac cttagggact gtcgtcagcc tggggcttct ggagatatct 1320
ggaccatttt ctatgaacct tccactacaa tctccatctt taagaagaag ctcaagggtc 1380
agagtcaaca agatgaccgc aatcccctcg                                   1410
```

<210> 439
<211> 470
<212> PRT
<213> Mus sp.

<400> 439

```
Met Ala Pro Pro Ala Ala Arg Leu Ala Leu Leu Ser Ala Ala Ala Leu
 1               5                  10                  15

Thr Leu Ala Ala Arg Pro Ala Pro Gly Pro Arg Ser Gly Pro Glu Cys
            20                  25                  30

Phe Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Ser Trp Thr Ala
        35                  40                  45

Leu Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His
    50                  55                  60

Pro Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu
65                  70                  75                  80

His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr
                85                  90                  95

Val Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro
            100                 105                 110

Ala Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn
        115                 120                 125
```

321

```
Pro Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile
    130                 135                 140

Gln Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly
145                 150                 155                 160

Met Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp
                165                 170                 175

Lys His Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly
                180                 185                 190

Asp His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp
            195                 200                 205

Thr Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ala Ala Val
    210                 215                 220

Val Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys
225                 230                 235                 240

Tyr Trp Thr Ile Arg Val Pro Gly Ala Ser Arg Ile His Phe Asn Phe
                245                 250                 255

Thr Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp
            260                 265                 270

Gly Tyr Thr His Arg Val Leu Val Arg Leu Ser Gly Arg Ser Arg Pro
            275                 280                 285

Pro Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe
    290                 295                 300

Ser Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala
305                 310                 315                 320

Thr Lys Glu Glu Pro Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Leu
                325                 330                 335

Ala Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala His
            340                 345                 350

Ser Ser Lys Val Leu Tyr Val Ile Thr Pro Ser Pro Ser His Pro Pro
            355                 360                 365

Gln Thr Ala Gln Val Ala Ile Pro Gly His Arg Gln Leu Gly Pro Thr
    370                 375                 380
```

322

```
Ala Thr Glu Trp Lys Asp Gly Leu Cys Thr Ala Trp Arg Pro Ser Ser
385                 390             395             400

Ser Ser Gln Ser Gln Gln Leu Ser Gln Arg Phe Phe Cys Met Ser His
                405             410             415

Leu Asn Leu Ile Glu Ser Leu His Gln Glu Thr Leu Gly Thr Val Val
            420             425             430

Ser Leu Gly Leu Leu Glu Ile Ser Gly Pro Phe Ser Met Asn Leu Pro
        435             440             445

Leu Gln Ser Pro Ser Leu Arg Arg Ser Ser Arg Val Arg Val Asn Lys
    450             455             460

Met Thr Ala Ile Pro Ser
465             470


<210> 440
<211> 760
<212> PRT
<213> Mus sp.

<400> 440
Met Ala Leu Pro Ser Leu Gly Gln Asp Ser Trp Ser Leu Leu Arg Val
  1             5               10              15

Phe Phe Phe Gln Leu Phe Leu Leu Pro Ser Leu Pro Pro Ala Ser Gly
            20              25              30

Thr Gly Gly Gln Gly Pro Met Pro Arg Val Lys Tyr His Ala Gly Asp
        35              40              45

Gly His Arg Ala Leu Ser Phe Phe Gln Gln Lys Gly Leu Arg Asp Phe
    50              55              60

Asp Thr Leu Leu Leu Ser Asp Asp Gly Asn Thr Leu Tyr Val Gly Ala
 65             70              75              80

Arg Glu Thr Val Leu Ala Leu Asn Ile Gln Asn Pro Gly Ile Pro Arg
            85              90              95

Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Glu Arg Lys Lys Thr Glu
            100             105             110

Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile
        115             120             125
```

323

```
Arg Val Leu Val Ser Tyr Asn Ala Thr His Leu Tyr Ala Cys Gly Thr
    130                 135                 140

Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Leu
145                 150                 155                 160

Leu Leu Pro Ile Leu Ile Asp Lys Val Met Asp Gly Lys Gly Gln Ser
                165                 170                 175

Pro Leu Thr Leu Phe Thr Ser Thr Gln Ala Val Leu Val Asp Gly Met
                180                 185                 190

Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu
        195                 200                 205

Met Arg Thr Leu Gly Ser His Pro Val Leu Lys Thr Asp Ile Phe Leu
    210                 215                 220

Arg Trp Leu His Ala Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr
225                 230                 235                 240

Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe
                245                 250                 255

Phe Glu Glu Leu Tyr Ile Ser Arg Val Ala Gln Val Cys Lys Asn Asp
                260                 265                 270

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys
        275                 280                 285

Ala Gln Leu Leu Cys Ala Gln Pro Gly Gln Leu Pro Phe Asn Ile Ile
        290                 295                 300

Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Ser Val Ser Arg Ile
305                 310                 315                 320

Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser
                325                 330                 335

Ala Val Cys Ala Phe Ser Leu Thr Asp Ile Glu Arg Val Phe Lys Gly
        340                 345                 350

Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg
        355                 360                 365

Gly Ser Glu Val Ser Pro Arg Pro Gly Ser Cys Ser Met Gly Pro Ser
    370                 375                 380

                            324
```

```
Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu
385                 390                 395                 400

His Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr
                405                 410                 415

Arg Leu Ala Val Glu Ser Ala Arg Gly Leu Asp Gly Ser Ser His Val
            420                 425                 430

Val Met Tyr Leu Gly Thr Ser Thr Gly Pro Leu His Lys Ala Val Val
            435                 440                 445

Pro Gln Asp Ser Ser Ala Tyr Leu Val Glu Glu Ile Gln Leu Ser Pro
    450                 455                 460

Asp Ser Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Ala Gln Gly Ala
465                 470                 475                 480

Val Phe Ala Gly Phe Ser Gly Gly Ile Trp Arg Val Pro Arg Ala Asn
            485                 490                 495

Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro
            500                 505                 510

His Cys Ala Trp Asp Pro Glu Ser Arg Leu Cys Ser Leu Leu Ser Gly
    515                 520                 525

Ser Thr Lys Pro Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu Trp
    530                 535                 540

Val Cys Thr Arg Gly Pro Met Ala Arg Ser Pro Arg Arg Gln Ser Pro
545                 550                 555                 560

Pro Gln Leu Ile Lys Glu Val Leu Thr Val Pro Asn Ser Ile Leu Glu
            565                 570                 575

Leu Arg Cys Pro His Leu Ser Ala Leu Ala Ser Tyr His Trp Ser His
            580                 585                 590

Gly Arg Ala Lys Ile Ser Glu Ala Ser Ala Thr Val Tyr Asn Gly Ser
    595                 600                 605

Leu Leu Leu Leu Pro Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys Val
    610                 615                 620

Ala Thr Glu Asn Gly Tyr Ser Tyr Pro Val Val Ser Tyr Trp Val Asp
625                 630                 635                 640
```

                                    ·
                                   325

Ser Gln Asp Gln Pro Leu Ala Leu Asp Pro Glu Leu Ala Gly Val Pro
                  645   650   655

Arg Glu Arg Val Gln Val Pro Leu Thr Arg Val Gly Gly Gly Ala Ser
              660   665   670

Met Ala Ala Gln Arg Ser Tyr Trp Pro His Phe Leu Ile Val Thr Val
          675   680   685

Leu Leu Ala Ile Val Leu Leu Gly Val Leu Thr Leu Leu Leu Ala Ser
      690   695   700

Pro Leu Gly Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Gly Met
705   710   715   720

Leu Pro Pro Arg Glu Lys Ala Pro Leu Ser Arg Asp Gln His Leu Gln
              725   730   735

Pro Ser Lys Asp His Arg Thr Ser Ala Ser Asp Val Asp Ala Asp Asn
              740   745   750

Asn His Leu Gly Ala Glu Val Ala
          755   760

<210> 441
<211> 3046
<212> PRT
<213> Mus sp.

<400> 441
Cys Thr Cys Gly Gly Ala Cys Gly Cys Cys Thr Gly Gly Gly Thr Thr
  1   5   10   15

Ala Gly Gly Gly Gly Thr Cys Thr Gly Thr Ala Cys Thr Gly Cys Thr
              20   25   30

Gly Gly Gly Gly Ala Ala Cys Cys Ala Thr Cys Thr Gly Gly Thr Gly
          35   40   45

Ala Cys Cys Ala Thr Cys Thr Cys Ala Gly Gly Cys Thr Gly Ala Cys
      50   55   60

Cys Ala Thr Gly Gly Cys Cys Cys Thr Ala Cys Cys Ala Thr Cys Cys
65   70   75   80

Cys Thr Gly Gly Gly Cys Cys Ala Gly Gly Ala Cys Thr Cys Ala Thr

Gly Gly Ala Gly Thr Cys Thr Cys Cys Thr Gly Cys Gly Thr Gly Thr
            100   105   110

Thr Thr Thr Thr Thr Thr Cys Thr Thr Cys Cys Ala Ala Cys Thr Cys
            115   120   125

Thr Thr Cys Cys Thr Gly Cys Thr Gly Cys Cys Ala Thr Cys Ala Cys
        130   135   140

Thr Gly Cys Cys Ala Cys Cys Thr Gly Cys Thr Thr Cys Thr Gly Gly
145   150   155   160

Gly Ala Cys Thr Gly Gly Thr Gly Gly Thr Cys Ala Gly Gly Gly Gly
                165   170   175

Cys Cys Cys Ala Thr Gly Cys Cys Cys Ala Gly Ala Gly Thr Cys Ala
            180   185   190

Ala Ala Thr Ala Cys Cys Ala Thr Gly Cys Thr Gly Gly Ala Gly Ala
            195   200   205

Cys Gly Gly Gly Cys Ala Cys Ala Gly Gly Gly Cys Cys Cys Thr Cys
    210   215   220

Ala Gly Cys Thr Thr Cys Thr Thr Cys Cys Ala Ala Cys Ala Ala Ala
225   230   235   240

Ala Ala Gly Gly Cys Cys Thr Cys Cys Gly Ala Gly Ala Cys Thr Thr
                245   250   255

Thr Gly Ala Cys Ala Cys Gly Cys Thr Gly Cys Thr Cys Cys Thr Gly
            260   265   270

Ala Gly Thr Gly Ala Cys Gly Ala Thr Gly Gly Cys Ala Ala Cys Ala
            275   280   285

Cys Thr Cys Thr Cys Thr Ala Thr Gly Thr Gly Gly Gly Gly Gly Cys
        290   295   300

Thr Cys Gly Ala Gly Ala Gly Ala Cys Cys Gly Thr Cys Cys Thr Gly
305   310   315   320

Gly Cys Cys Thr Thr Gly Ala Ala Thr Ala Thr Cys Cys Ala Gly Ala
            325   330   335

Ala Cys Cys Cys Ala Gly Gly Ala Ala Thr Cys Cys Cys Ala Ala Gly

327

Gly Cys Thr Ala Ala Ala Gly Ala Ala Cys Ala Thr Gly Ala Thr Ala
    355   360   365

Cys Cys Cys Thr Gly Gly Cys Cys Ala Gly Cys Cys Ala Gly Thr Gly
    370   375   380

Ala Gly Ala Gly Ala Ala Ala Ala Ala Gly Ala Cys Cys Gly Ala
385   390   395   400

Ala Thr Gly Thr Gly Cys Cys Thr Thr Ala Ala Gly Ala Ala Gly
                405   410   415

Ala Ala Gly Ala Gly Cys Ala Ala Thr Gly Ala Gly Ala Cys Ala Cys
            420   425   430

Ala Gly Thr Gly Thr Thr Thr Cys Ala Ala Cys Thr Thr Cys Ala Thr
    435   440   445

Thr Cys Gly Ala Gly Thr Cys Cys Thr Gly Gly Thr Cys Thr Cys Thr
    450   455   460

Thr Ala Cys Ala Ala Thr Gly Cys Thr Ala Cys Thr Cys Ala Cys Cys
465   470   475   480

Thr Cys Thr Ala Thr Gly Cys Cys Thr Gly Thr Gly Gly Gly Ala Cys
                485   490   495

Cys Thr Thr Thr Gly Cys Cys Thr Thr Cys Ala Gly Cys Cys Cys Thr
            500   505   510

Gly Cys Cys Thr Gly Thr Ala Cys Cys Thr Thr Cys Ala Thr Thr Gly
    515   520   525

Ala Ala Cys Thr Cys Cys Ala Ala Gly Ala Thr Thr Cys Cys Cys Thr
    530   535   540

Cys Cys Thr Gly Thr Thr Gly Cys Cys Cys Ala Thr Cys Thr Thr Gly
545   550   555   560

Ala Thr Ala Gly Ala Cys Ala Ala Gly Gly Thr Cys Ala Thr Gly Gly
            565   570   575

Ala Cys Gly Gly Gly Ala Ala Gly Gly Gly Cys Cys Ala Ala Ala Gly
            580   585   590

Cys Cys Cys Thr Thr Thr Gly Ala Cys Cys Cys Thr Gly Thr Thr Cys

328

Ala Cys Ala Ala Gly Cys Ala Cys Ala Cys Ala Ala Gly Cys Thr Gly
    610   615   620

Thr Cys Thr Thr Gly Gly Thr Cys Gly Ala Thr Gly Gly Gly Ala Thr
625   630   635   640

Gly Cys Thr Thr Thr Ala Thr Thr Cys Cys Gly Gly Cys Ala Cys Cys
                645   650   655

Ala Thr Gly Ala Ala Cys Ala Ala Cys Thr Thr Cys Cys Thr Gly Gly
            660   665   670

Gly Cys Ala Gly Cys Gly Ala Gly Cys Cys Cys Ala Thr Cys Cys Thr
    675   680   685

Gly Ala Thr Gly Cys Gly Gly Ala Cys Ala Cys Thr Gly Gly Gly Ala
    690   695   700

Thr Cys Cys Cys Ala Thr Cys Cys Thr Gly Thr Thr Cys Thr Cys Ala
705   710   715   720

Ala Gly Ala Cys Thr Gly Ala Cys Ala Thr Cys Thr Thr Cys Thr Thr
            725   730   735

Ala Cys Gly Cys Thr Gly Gly Cys Thr Gly Cys Ala Cys Gly Cys Gly
            740   745   750

Gly Ala Thr Gly Cys Cys Thr Cys Cys Thr Thr Cys Gly Thr Gly Gly
            755   760   765

Cys Ala Gly Cys Cys Ala Thr Thr Cys Cys Ala Thr Cys Cys Ala Cys
    770   775   780

Cys Cys Ala Gly Gly Thr Cys Gly Thr Cys Thr Ala Thr Thr Thr Cys
785   790   795   800

Thr Thr Cys Thr Thr Thr Gly Ala Gly Gly Ala Gly Ala Cys Ala Gly
                805   810   815

Cys Cys Ala Gly Cys Gly Ala Gly Thr Thr Thr Gly Ala Cys Thr Thr
            820   825   830

Cys Thr Thr Thr Gly Ala Ala Gly Ala Gly Cys Thr Gly Thr Ala Thr
            835   840   845

Ala Thr Ala Thr Cys Cys Ala Gly Gly Gly Thr Gly Gly Cys Thr Cys

Ala Ala Gly Thr Cys Thr Gly Cys Ala Ala Gly Ala Ala Cys Gly Ala
865   870   875   880

Cys Gly Thr Gly Gly Gly Cys Gly Gly Thr Gly Ala Ala Ala Ala Gly
                             885   890   895

Cys Thr Gly Cys Thr Gly Cys Ala Gly Ala Ala Gly Ala Ala Gly Thr
             900   905   910

Gly Gly Ala Cys Cys Ala Cys Cys Thr Thr Cys Cys Thr Cys Ala Ala
             915   920   925

Ala Gly Cys Cys Cys Ala Gly Thr Thr Gly Cys Thr Cys Thr Gly Cys
             930   935   940

Gly Cys Thr Cys Ala Gly Cys Cys Ala Gly Gly Gly Cys Ala Gly Cys
945   950   955   960

Thr Gly Cys Cys Ala Thr Thr Cys Ala Ala Cys Ala Thr Cys Ala Thr
             965   970   975

Cys Cys Gly Cys Cys Ala Cys Gly Cys Gly Gly Thr Cys Cys Thr Gly
             980   985   990

Cys Thr Gly Cys Cys Cys Gly Cys Cys Gly Ala Thr Thr Cys Thr Cys
             995   1000   1005

Cys Cys Thr Cys Thr Gly Thr Thr Thr Cys Cys Cys Gly Cys Ala Thr
    1010   1015   1020

Cys Thr Ala Cys Gly Cys Ala Gly Thr Cys Thr Thr Thr Ala Cys Cys
1025   1030   1035   1040

Thr Cys Cys Cys Ala Gly Thr Gly Gly Cys Ala Gly Gly Thr Thr Gly
             1045   1050   1055

Gly Cys Gly Gly Gly Ala Cys Cys Ala Gly Gly Ala Gly Cys Thr Cys
             1060   1065   1070

Ala Gly Cys Ala Gly Thr Cys Thr Gly Thr Gly Cys Cys Thr Thr Cys
             1075   1080   1085

Thr Cys Thr Cys Thr Cys Ala Cys Gly Gly Ala Cys Ala Thr Thr Gly
    1090   1095   1100

Ala Gly Cys Gly Ala Gly Thr Cys Thr Thr Thr Ala Ala Ala Gly Gly

330

Gly Ala Ala Gly Thr Ala Cys Ala Ala Gly Gly Ala Gly Cys Thr Gly
                1125   1130   1135

Ala Ala Cys Ala Ala Gly Gly Ala Gly Ala Cys Cys Thr Cys Cys Cys
           1140   1145   1150

Gly Cys Thr Gly Gly Ala Cys Cys Ala Cys Thr Thr Ala Cys Cys Gly
        1155   1160   1165

Gly Gly Gly Cys Thr Cys Ala Gly Ala Gly Gly Thr Cys Ala Gly Cys
     1170   1175   1180

Cys Cys Gly Ala Gly Gly Cys Cys Ala Gly Gly Cys Ala Gly Thr Thr
1185   1190   1195   1200

Gly Cys Thr Cys Cys Ala Thr Gly Gly Gly Cys Cys Cys Cys Thr Cys
                1205   1210   1215

Cys Thr Cys Thr Gly Ala Cys Ala Ala Ala Gly Cys Cys Thr Thr Gly
           1220   1225   1230

Ala Cys Cys Thr Thr Cys Ala Thr Gly Ala Ala Gly Gly Ala Cys Cys
        1235   1240   1245

Ala Thr Thr Thr Thr Cys Thr Gly Ala Thr Gly Gly Ala Thr Gly Ala
     1250   1255   1260

Gly Cys Ala Cys Gly Thr Gly Gly Thr Ala Gly Gly Ala Ala Cys Ala
1265   1270   1275   1280

Cys Cys Cys Cys Thr Gly Cys Thr Gly Gly Thr Gly Ala Ala Gly Thr
        1285   1290   1295

Cys Thr Gly Gly Thr Gly Thr Gly Gly Ala Gly Thr Ala Cys Ala Cys
        1300   1305   1310

Ala Cys Gly Gly Cys Thr Thr Gly Cys Thr Gly Thr Gly Gly Ala Gly
     1315   1320   1325

Thr Cys Ala Gly Cys Thr Cys Gly Gly Gly Gly Cys Cys Thr Thr Gly
     1330   1335   1340

Ala Thr Gly Gly Gly Ala Gly Cys Ala Gly Cys Cys Ala Thr Gly Thr
1345   1350   1355   1360

Gly Gly Thr Cys Ala Thr Gly Thr Ala Thr Cys Thr Gly Gly Gly Thr

331

```
            1365                    1370                    1375

  Ala Cys Cys Thr Cys Cys Ala Cys Gly Gly Gly Thr Cys Cys Cys Cys
            1380                    1385                    1390

  Thr Gly Cys Ala Cys Ala Ala Gly Gly Cys Thr Gly Thr Gly Gly Thr
       1395                    1400                    1405

  Gly Cys Cys Thr Cys Ala Gly Gly Ala Cys Ala Gly Cys Ala Gly Thr
     1410                    1415                    1420

  Gly Cys Thr Thr Ala Thr Cys Thr Cys Gly Thr Gly Gly Ala Gly Gly
  1425                    1430                    1435                    1440

  Ala Gly Ala Thr Thr Cys Ala Gly Cys Thr Gly Ala Gly Cys Cys Cys
               1445                    1450                    1455

  Thr Gly Ala Cys Thr Cys Thr Gly Ala Gly Cys Cys Thr Gly Thr Thr
            1460                    1465                    1470

  Cys Gly Ala Ala Ala Cys Cys Thr Gly Cys Ala Gly Cys Thr Gly Gly
          1475                    1480                    1485

  Cys Cys Cys Cys Cys Gly Cys Cys Cys Ala Gly Gly Gly Thr Gly Cys
     1490                    1495                    1500

  Ala Gly Thr Gly Thr Thr Thr Gly Cys Ala Gly Gly Cys Thr Thr Cys
  1505                    1510                    1515                    1520

  Thr Cys Thr Gly Gly Ala Gly Gly Cys Ala Thr Cys Thr Gly Gly Ala
               1525                    1530                    1535

  Gly Ala Gly Thr Thr Cys Cys Cys Ala Gly Gly Gly Cys Cys Ala Ala
            1540                    1545                    1550

  Thr Thr Gly Cys Ala Gly Thr Gly Thr Cys Thr Ala Cys Gly Ala Gly
          1555                    1560                    1565

  Ala Gly Cys Thr Gly Thr Gly Thr Gly Gly Ala Cys Thr Gly Thr Gly
     1570                    1575                    1580

  Thr Gly Cys Thr Thr Gly Cys Cys Ala Gly Gly Gly Ala Cys Cys Cys
  1585                    1590                    1595                    1600

  Thr Cys Ala Cys Thr Gly Thr Gly Cys Cys Thr Gly Gly Gly Ala Cys
               1605                    1610                    1615

  Cys Cys Thr Gly Ala Ala Thr Cys Ala Ala Gly Ala Cys Thr Cys Thr

                              332
```

```
          1620                1625                1630

Gly Cys Ala Gly Cys Cys Thr Thr Cys Thr Gly Thr Cys Thr Gly Gly
      1635                1640                1645

Cys Thr Cys Thr Ala Cys Cys Ala Ala Gly Cys Cys Thr Thr Gly Gly
    1650                1655                1660

Ala Ala Gly Cys Ala Gly Gly Ala Cys Ala Thr Gly Gly Ala Ala Cys
1665                1670                1675                1680

Gly Cys Gly Gly Cys Ala Ala Cys Cys Cys Gly Gly Ala Gly Thr Gly
            1685                1690                1695

Gly Gly Thr Ala Thr Gly Cys Ala Cys Cys Cys Gly Thr Gly Gly Cys
          1700                1705                1710

Cys Cys Cys Ala Thr Gly Gly Cys Cys Ala Gly Gly Ala Gly Cys Cys
        1715                1720                1725

Cys Cys Cys Gly Gly Cys Gly Thr Cys Ala Gly Ala Gly Cys Cys Cys
    1730                1735                1740

Cys Cys Cys Thr Cys Ala Ala Cys Thr Ala Ala Thr Thr Ala Ala Ala
1745                1750                1755                1760

Gly Ala Ala Gly Thr Cys Cys Thr Gly Ala Cys Ala Gly Thr Cys Cys
            1765                1770                1775

Cys Cys Ala Ala Cys Thr Cys Cys Ala Thr Cys Cys Thr Gly Gly Ala
        1780                1785                1790

Gly Cys Thr Gly Cys Gly Cys Thr Gly Cys Cys Cys Cys Cys Ala Cys
    1795                1800                1805

Cys Thr Gly Thr Cys Ala Gly Cys Ala Cys Thr Gly Gly Cys Cys Thr
1810                1815                1820

Cys Thr Thr Ala Cys Cys Ala Cys Thr Gly Gly Ala Gly Thr Cys Ala
1825                1830                1835                1840

Thr Gly Gly Cys Cys Gly Ala Gly Cys Cys Ala Ala Ala Ala Thr Cys
            1845                1850                1855

Thr Cys Ala Gly Ala Ala Gly Cys Cys Thr Cys Thr Gly Cys Thr Ala
        1860                1865                1870

Cys Cys Gly Thr Cys Thr Ala Cys Ala Ala Thr Gly Gly Cys Thr Cys
```

                              333

Cys Cys Thr Cys Thr Thr Gly Cys Thr Gly Cys Thr Gly Cys Cys Gly
      1890   1895   1900

Cys Ala Gly Gly Ala Thr Gly Gly Thr Gly Thr Cys Gly Gly Gly Gly
1905   1910   1915   1920

Gly Cys Cys Thr Cys Thr Ala Cys Cys Ala Gly Thr Gly Thr Gly Thr
            1925   1930   1935

Gly Gly Cys Gly Ala Cys Thr Gly Ala Gly Ala Ala Cys Gly Gly Cys
         1940   1945   1950

Thr Ala Cys Thr Cys Ala Thr Ala Cys Cys Cys Thr Gly Thr Gly Gly
         1955   1960   1965

Thr Cys Thr Cys Cys Thr Ala Thr Thr Gly Gly Gly Thr Ala Gly Ala
      1970   1975   1980

Cys Ala Gly Cys Cys Ala Gly Gly Ala Cys Cys Ala Gly Cys Cys Cys
1985   1990   1995   2000

Cys Thr Gly Gly Cys Gly Cys Thr Gly Gly Ala Cys Cys Cys Thr Gly
            2005   2010   2015

Ala Gly Cys Thr Gly Gly Cys Gly Gly Gly Cys Gly Thr Thr Cys Cys
         2020   2025   2030

Cys Cys Gly Thr Gly Ala Gly Cys Gly Thr Gly Thr Gly Cys Ala Gly
         2035   2040   2045

Gly Thr Cys Cys Cys Gly Cys Thr Gly Ala Cys Cys Ala Gly Gly Gly
      2050   2055   2060

Thr Cys Gly Gly Ala Gly Gly Cys Gly Gly Ala Gly Cys Thr Thr Cys
2065   2070   2075   2080

Cys Ala Thr Gly Gly Cys Thr Gly Cys Cys Cys Ala Gly Cys Gly Gly
            2085   2090   2095

Thr Cys Cys Thr Ala Cys Thr Gly Gly Cys Cys Cys Cys Ala Thr Thr
         2100   2105   2110

Thr Thr Cys Thr Cys Ala Thr Cys Gly Thr Thr Ala Cys Cys Gly Thr
      2115   2120   2125

Cys Cys Thr Cys Cys Thr Gly Gly Cys Cys Ala Thr Cys Gly Thr Gly

334

Cys Thr Cys Cys Thr Gly Gly Gly Ala Gly Thr Gly Cys Thr Cys Ala
2145   2150   2155   2160

Cys Thr Cys Thr Cys Cys Thr Cys Cys Thr Cys Gly Cys Thr Thr Cys
                2165   2170   2175

Cys Cys Cys Ala Cys Thr Gly Gly Gly Gly Gly Cys Gly Cys Thr Gly
            2180   2185   2190

Cys Gly Gly Gly Cys Thr Cys Gly Gly Gly Gly Thr Ala Ala Gly Gly
            2195   2200   2205

Thr Thr Cys Ala Gly Gly Gly Cys Thr Gly Thr Gly Gly Gly Ala Thr
        2210   2215   2220

Gly Cys Thr Gly Cys Cys Cys Cys Cys Cys Ala Gly Gly Gly Ala Ala
2225   2230   2235   2240

Ala Ala Gly Gly Cys Thr Cys Cys Ala Cys Thr Gly Ala Gly Cys Ala
                2245   2250   2255

Gly Gly Gly Ala Cys Cys Ala Gly Cys Ala Cys Cys Thr Cys Cys Ala
            2260   2265   2270

Gly Cys Cys Cys Thr Cys Cys Ala Ala Gly Gly Ala Cys Cys Ala Cys
        2275   2280   2285

Ala Gly Gly Ala Cys Cys Thr Cys Thr Gly Cys Cys Ala Gly Thr Gly
        2290   2295   2300

Ala Cys Gly Thr Ala Gly Ala Thr Gly Cys Cys Gly Ala Cys Ala Ala
2305   2310   2315   2320

Cys Ala Ala Cys Cys Ala Thr Cys Thr Gly Gly Gly Cys Gly Cys Cys
            2325   2330   2335

Gly Ala Ala Gly Thr Gly Gly Cys Thr Thr Ala Ala Ala Cys Ala Gly
            2340   2345   2350

Gly Gly Ala Cys Ala Cys Ala Gly Ala Thr Cys Cys Gly Cys Ala Gly
        2355   2360   2365

Cys Thr Gly Ala Gly Cys Ala Gly Ala Gly Cys Ala Ala Gly Cys Cys
        2370   2375   2380

Ala Cys Thr Gly Gly Cys Cys Thr Thr Gly Thr Thr Gly Gly Cys Thr

```
2385                2390                2395                2400

Ala Thr Gly Cys Cys Ala Gly Gly Cys Ala Cys Ala Gly Thr Gly Cys
          2405                2410                2415

Cys Ala Cys Thr Cys Thr Gly Ala Cys Cys Ala Gly Gly Gly Thr Ala
        2420                2425                2430

Gly Gly Ala Gly Gly Cys Thr Cys Thr Cys Cys Thr Gly Cys Thr Ala
      2435                2440                2445

Ala Cys Gly Thr Gly Thr Gly Thr Cys Ala Cys Cys Thr Ala Cys Ala
    2450                2455                2460

Gly Cys Ala Cys Cys Cys Ala Gly Thr Ala Gly Gly Thr Cys Cys Thr
2465                2470                2475                2480

Cys Cys Cys Cys Thr Gly Thr Gly Gly Gly Ala Cys Thr Cys Thr Cys
          2485                2490                2495

Thr Thr Cys Thr Gly Cys Ala Ala Gly Cys Ala Cys Ala Thr Thr Gly
        2500                2505                2510

Gly Gly Cys Thr Gly Thr Cys Thr Cys Cys Ala Thr Ala Cys Cys Thr
      2515                2520                2525

Gly Thr Ala Cys Thr Thr Gly Thr Gly Cys Thr Gly Thr Gly Ala Cys
    2530                2535                2540

Ala Gly Gly Ala Ala Gly Ala Gly Cys Cys Ala Gly Ala Cys Ala Gly
2545                2550                2555                2560

Gly Thr Thr Thr Cys Thr Thr Thr Gly Ala Thr Thr Thr Gly Ala
          2565                2570                2575

Thr Thr Gly Ala Cys Cys Cys Ala Ala Gly Ala Gly Cys Cys Cys Thr
        2580                2585                2590

Gly Cys Cys Thr Gly Thr Ala Ala Cys Ala Ala Ala Cys Gly Thr Gly
      2595                2600                2605

Cys Thr Cys Cys Ala Gly Gly Ala Gly Ala Cys Cys Ala Thr Gly Ala
    2610                2615                2620

Ala Ala Gly Gly Thr Gly Thr Gly Gly Cys Thr Gly Thr Cys Thr Gly
2625                2630                2635                2640

Gly Gly Ala Thr Thr Cys Thr Gly Thr Gly Gly Thr Gly Ala Cys Ala
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                2645                    2650                    2655

Ala Ala Cys Cys Thr Ala Ala Gly Cys Ala Thr Cys Cys Gly Ala Gly
          2660                    2665                    2670

Cys Ala Ala Gly Cys Thr Gly Gly Gly Cys Thr Ala Thr Thr Cys
      2675                    2680                    2685

Cys Thr Gly Cys Ala Ala Ala Cys Thr Cys Cys Ala Thr Cys Cys Thr
    2690                    2695                    2700

Gly Ala Ala Cys Gly Cys Thr Gly Thr Cys Ala Cys Thr Cys Thr Ala
2705                    2710                    2715                    2720

Gly Ala Ala Gly Cys Ala Gly Cys Thr Gly Cys Thr Gly Cys Thr Thr
              2725                    2730                    2735

Thr Gly Ala Ala Cys Ala Cys Cys Ala Gly Cys Cys Cys Ala Cys Cys
          2740                    2745                    2750

Cys Thr Cys Cys Thr Thr Cys Cys Cys Ala Ala Gly Ala Gly Thr Cys
          2755                    2760                    2765

Thr Cys Thr Ala Thr Gly Gly Ala Gly Thr Thr Gly Gly Cys Cys Cys
    2770                    2775                    2780

Cys Thr Thr Gly Thr Gly Thr Thr Thr Cys Cys Thr Thr Thr Ala Cys
2785                    2790                    2795                    2800

Cys Ala Gly Thr Cys Gly Gly Gly Cys Cys Ala Thr Ala Cys Thr Gly
              2805                    2810                    2815

Thr Thr Thr Gly Gly Gly Ala Ala Gly Thr Cys Ala Thr Cys Thr Cys
          2820                    2825                    2830

Thr Gly Ala Ala Gly Thr Cys Thr Ala Ala Cys Cys Ala Cys Cys Thr
      2835                    2840                    2845

Thr Cys Cys Thr Thr Cys Thr Thr Gly Gly Thr Thr Cys Ala Gly Thr
    2850                    2855                    2860

Thr Thr Gly Gly Ala Cys Ala Gly Ala Thr Thr Gly Thr Thr Ala Thr
2865                    2870                    2875                    2880

Thr Ala Thr Thr Gly Thr Cys Thr Cys Thr Gly Cys Cys Cys Thr Gly
              2885                    2890                    2895

Gly Cys Thr Ala Gly Ala Ala Thr Gly Gly Gly Gly Gly Cys Ala Thr
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                                337

Ala Ala Thr Cys Thr Gly Ala Gly Cys Cys Thr Thr Gly Thr Thr Cys
        2915   2920   2925

Cys Cys Thr Thr Gly Thr Cys Cys Ala Gly Thr Gly Thr Gly Gly Cys
    2930   2935   2940

Thr Gly Ala Cys Cys Cys Thr Thr Gly Ala Cys Cys Thr Cys Thr Thr
2945   2950   2955   2960

Cys Cys Thr Thr Cys Cys Thr Cys Cys Thr Cys Cys Cys Thr Thr Thr
            2965   2970   2975

Gly Thr Thr Thr Thr Gly Gly Gly Ala Thr Thr Cys Ala Gly Ala Ala
        2980   2985   2990

Ala Ala Cys Thr Gly Cys Thr Thr Gly Thr Cys Ala Cys Ala Gly Ala
    2995   3000   3005

Cys Ala Ala Thr Thr Thr Ala Thr Thr Thr Thr Thr Thr Ala Thr Thr
    3010   3015   3020

Ala Ala Ala Ala Ala Ala Gly Ala Thr Ala Thr Ala Ala Gly Cys Thr
3025   3030   3035   3040

Thr Thr Ala Ala Ala Gly
            3045

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<213> Homo sapiens

<400> 445
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Thr His Gly Leu Phe Gly Lys Leu His Pro Gly Ser Pro Glu Val Thr
            20   25   30

Met Asn Ile Ser Gln Met Ile Thr Tyr Trp Gly Tyr Pro Asn Glu Glu
            35   40   45

Tyr Glu Val Val Thr Glu Asp Gly Tyr Ile Leu Glu Val Asn Arg Ile
     50   55   60

Pro Tyr Gly Lys Lys Asn Ser Gly Asn Thr Gly Gln Arg Pro Val Val
 65   70   75   80

Phe Leu Gln His Gly Leu Leu Ala Ser Ala Thr Asn Trp Ile Ser Asn
                85   90   95

Leu Pro Asn Asn Ser Leu Ala Phe Ile Leu Ala Asp Ala Gly Tyr Asp
            100   105   110

Val Trp Leu Gly Asn Ser Arg Gly Asn Thr Trp Ala Arg Arg Asn Leu
            115   120   125

Tyr Tyr Ser Pro Asp Ser Val Glu Phe Trp Ala Phe Ser Phe Asp Glu
     130   135   140

Met Ala Lys Tyr Asp Leu Pro Ala Thr Ile Asp Phe Ile Val Lys Lys
145   150   155   160

Thr Gly Gln Lys Gln Leu His Tyr Val Gly His Ser Gln Gly Thr Thr
                165   170   175

Ile Gly Phe Ile Ala Phe Ser Thr Asn Pro Ser Leu Ala Lys Arg Ile
            180   185   190

Lys Thr Phe Tyr Ala Leu Ala Pro Val Ala Thr Val Lys Tyr Thr Lys
            195   200   205

Ser Leu Ile Asn Lys Leu Arg Phe Val Pro Gln Ser Leu Phe Lys Phe
     210   215   220

Ile Phe Gly Asp Lys Ile Phe Tyr Pro His Asn Phe Phe Asp Gln Phe
225   230   235   240

                              339   .

Leu Ala Thr Glu Val Cys Ser Arg Glu Met Leu Asn Leu Leu Cys Ser
                245   250   255

Asn Ala Leu Phe Ile Ile Cys Gly Phe Asp Ser Lys Asn Phe Asn Thr
                260   265   270

Ser Arg Leu Asp Val Tyr Leu Ser His Asn Pro Ala Gly Thr Ser Val
                275   280   285

Gln Asn Met Phe His Trp Thr Gln Ala Val Lys Ser Gly Lys Phe Gln
        290   295   300

Ala Tyr Asp Trp Gly Ser Pro Val Gln Asn Arg Met His Tyr Asp Gln
305   310   315   320

Ser Gln Pro Pro Tyr Tyr Asn Val Thr Ala Met Asn Val Pro Ile Ala
                325   330   335

Val Trp Asn Gly Gly Lys Asp Leu Leu Ala Asp Pro Gln Asp Val Gly
                340   345   350

Leu Leu Leu Pro Lys Leu Pro Asn Leu Ile Tyr His Lys Glu Ile Pro
        355   360   365

Phe Tyr Asn His Leu Asp Phe Ile Trp Ala Met Asp Ala Pro Gln Glu
        370   375   380

Val Tyr Asn Asp Ile Val Ser Met Ile Ser Glu Asp Lys Lys
385   390   395

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<212> PRT
<213> Mus sp.

<400> 446
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  1   5   10   15

Phe Phe Phe Gln Leu Phe Leu Leu Pro Ser Leu Pro Pro Ala Ser Gly
                20   25   30

Thr Gly Gly Gln Gly Pro Met Pro Arg Val Lys Tyr His Ala Gly Asp
            35   40   45

Gly His Arg Ala Leu Ser Phe Phe Gln Gln Lys Gly Leu Arg Asp Phe
    50   55   60

340

Asp Thr Leu Leu Leu Ser Asp Asp Gly Asn Thr Leu Tyr Val Gly Ala
65   70   75   80

Arg Glu Thr Val Leu Ala Leu Asn Ile Gln Asn Pro Gly Ile Pro Arg
                 85   90   95

Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Glu Arg Lys Lys Thr Glu
             100   105   110

Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile
             115   120   125

Arg Val Leu Val Ser Tyr Asn Ala Thr His Leu Tyr Ala Cys Gly Thr
     130   135   140

Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Leu
145   150   155   160

Leu Leu Pro Ile Leu Ile Asp Lys Val Met Asp Gly Lys Gly Gln Ser
             165   170   175

Pro Leu Thr Leu Phe Thr Ser Thr Gln Ala Val Leu Val Asp Gly Met
             180   185   190

Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu
     195   200   205

Met Arg Thr Leu Gly Ser His Pro Val Leu Lys Thr Asp Ile Phe Leu
     210   215   220

Arg Trp Leu His Ala Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr
225   230   235   240

Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe
             245   250   255

Phe Glu Glu Leu Tyr Ile Ser Arg Val Ala Gln Val Cys Lys Asn Asp
             260   265   270

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys
     275   280   285

Ala Gln Leu Leu Cys Ala Gln Pro Gly Gln Leu Pro Phe Asn Ile Ile
     290   295   300

Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Ser Val Ser Arg Ile
305   310   315   320

341

Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser
                325   330   335

Ala Val Cys Ala Phe Ser Leu Thr Asp Ile Glu Arg Val Phe Lys Gly
                340   345   350

Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg
                355   360   365

Gly Ser Glu Val Ser Pro Arg Pro Gly Ser Cys Ser Met Gly Pro Ser
        370   375   380

Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu
385   390   395   400

His Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr
                405   410   415

Arg Leu Ala Val Glu Ser Ala Arg Gly Leu Asp Gly Ser Ser His Val
                420   425   430

Val Met Tyr Leu Gly Thr Ser Thr Gly Pro Leu His Lys Ala Val Val
                435   440   445

Pro Gln Asp Ser Ser Ala Tyr Leu Val Glu Glu Ile Gln Leu Ser Pro
        450   455   460

Asp Ser Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Ala Gln Gly Ala
465   470   475   480

Val Phe Ala Gly Phe Ser Gly Gly Ile Trp Arg Val Pro Arg Ala Asn
                485   490   495

Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro
                500   505   510

His Cys Ala Trp Asp Pro Glu Ser Arg Leu Cys Ser Leu Leu Ser Gly
                515   520   525

Ser Thr Lys Pro Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu Trp
        530   535   540

Val Cys Thr Arg Gly Pro Met Ala Arg Ser Pro Arg Arg Gln Ser Pro
545   550   555   560

Pro Gln Leu Ile Lys Glu Val Leu Thr Val Pro Asn Ser Ile Leu Glu
                565   570   575

342

```
Leu Arg Cys Pro His Leu Ser Ala Leu Ala Ser Tyr His Trp Ser His
        580                 585                 590

Gly Arg Ala Lys Ile Ser Glu Ala Ser Ala Thr Val Tyr Asn Gly Ser
        595                 600                 605

Leu Leu Leu Leu Pro Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys Val
        610                 615                 620

Ala Thr Glu Asn Gly Tyr Ser Tyr Pro Val Val Ser Tyr Trp Val Asp
625                 630                 635                 640

Ser Gln Asp Gln Pro Leu Ala Leu Asp Pro Glu Leu Ala Gly Val Pro
                645                 650                 655

Arg Glu Arg Val Gln Val Pro Leu Thr Arg Val Gly Gly Gly Ala Ser
        660                 665                 670

Met Ala Ala Gln Arg Ser Tyr Trp Pro His Phe Leu Ile Val Thr Val
        675                 680                 685

Leu Leu Ala Ile Val Leu Leu Gly Val Leu Thr Leu Leu Leu Ala Ser
        690                 695                 700

Pro Leu Gly Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Gly Met
705                 710                 715                 720

Leu Pro Pro Arg Glu Lys Ala Pro Leu Ser Arg Asp Gln His Leu Gln
                725                 730                 735

Pro Ser Lys Asp His Arg Thr Ser Ala Ser Asp Val Asp Ala Asp Asn
                740                 745                 750

Asn His Leu Gly Ala Glu Val Ala
        755                 760


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<211> 3046
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tccaactctt cctgctgcca tcactgccac ctgcttctgg gactggtggt caggggccca  180
tgcccagagt caaataccat gctggagacg ggcacagggc cctcagcttc ttccaacaaa  240
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344

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<211> 1436
<212> PRT
<213> Bovine

<400> 448
Met Ala Leu Gly Arg His Leu Ser Leu Arg Gly Leu Cys Val Leu Leu
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Leu Gly Thr Met Val Gly Gly Gln Ala Leu Glu Leu Arg Leu Lys Asp
                20   25   30

Gly Val His Arg Cys Glu Gly Arg Val Glu Val Lys His Gln Gly Glu
            35   40   45

Trp Gly Thr Val Asp Gly Tyr Arg Trp Thr Leu Lys Asp Ala Ser Val
        50   55   60

Val Cys Arg Gln Leu Gly Cys Gly Ala Ala Ile Gly Phe Pro Gly Gly
65   70   75   80

Ala Tyr Phe Gly Pro Gly Leu Gly Pro Ile Trp Leu Leu Tyr Thr Ser
                85   90   95

Cys Glu Gly Thr Glu Ser Thr Val Ser Asp Cys Glu His Ser Asn Ile
            100   105   110

Lys Asp Tyr Arg Asn Asp Gly Tyr Asn His Gly Arg Asp Ala Gly Val
            115   120   125

Val Cys Ser Gly Phe Val Arg Leu Ala Gly Gly Asp Gly Pro Cys Ser
        130   135   140

Gly Arg Val Glu Val His Ser Gly Glu Ala Trp Ile Pro Val Ser Asp
145   150   155   160

Gly Asn Phe Thr Leu Ala Thr Ala Gln Ile Ile Cys Ala Glu Leu Gly
                165   170   175

Cys Gly Lys Ala Val Ser Val Leu Gly His Glu Leu Phe Arg Glu Ser
            180   185   190

Ser Ala Gln Val Trp Ala Glu Glu Phe Arg Cys Glu Gly Glu Glu Pro
            195   200   205

Glu Leu Trp Val Cys Pro Arg Val Pro Cys Pro Gly Gly Thr Cys His
        210   215   220

345

His Ser Gly Ser Ala Gln Val Val Cys Ser Ala Tyr Ser Glu Val Arg
225   230   235   240

Leu Met Thr Asn Gly Ser Ser Gln Cys Glu Gly Gln Val Glu Met Asn
                245   250   255

Ile Ser Gly Gln Trp Arg Ala Leu Cys Ala Ser His Trp Ser Leu Ala
                260   265   270

Asn Ala Asn Val Ile Cys Arg Gln Leu Gly Cys Gly Val Ala Ile Ser
                275   280   285

Thr Pro Gly Gly Pro His Leu Val Glu Glu Gly Asp Gln Ile Leu Thr
    290   295   300

Ala Arg Phe His Cys Ser Gly Ala Glu Ser Phe Leu Trp Ser Cys Pro
305   310   315   320

Val Thr Ala Leu Gly Gly Pro Asp Cys Ser His Gly Asn Thr Ala Ser
                325   330   335

Val Ile Cys Ser Gly Asn Gln Ile Gln Val Leu Pro Gln Cys Asn Asp
                340   345   350

Ser Val Ser Gln Pro Thr Gly Ser Ala Ala Ser Glu Asp Ser Ala Pro
                355   360   365

Tyr Cys Ser Asp Ser Arg Gln Leu Arg Leu Val Asp Gly Gly Gly Pro
    370   375   380

Cys Ala Gly Arg Val Glu Ile Leu Asp Gln Gly Ser Trp Gly Thr Ile
385   390   395   400

Cys Asp Asp Gly Trp Asp Leu Asp Asp Ala Arg Val Val Cys Arg Gln
                405   410   415

Leu Gly Cys Gly Glu Ala Leu Asn Ala Thr Gly Ser Ala His Phe Gly
                420   425   430

Ala Gly Ser Gly Pro Ile Trp Leu Asp Asn Leu Asn Cys Thr Gly Lys
                435   440   445

Glu Ser His Val Trp Arg Cys Pro Ser Arg Gly Trp Gly Gln His Asn
    450   455   460

Cys Arg His Lys Gln Asp Ala Gly Val Ile Cys Ser Glu Phe Leu Ala
465   470   475   480

```
Leu Arg Met Val Ser Glu Asp Gln Gln Cys Ala Gly Trp Leu Glu Val
            485                 490                 495

Phe Tyr Asn Gly Thr Trp Gly Ser Val Cys Arg Asn Pro Met Glu Asp
            500                 505                 510

Ile Thr Val Ser Thr Ile Cys Arg Gln Leu Gly Cys Gly Asp Ser Gly
            515                 520                 525

Thr Leu Asn Ser Ser Val Ala Leu Arg Glu Gly Phe Arg Pro Gln Trp
    530                 535                 540

Val Asp Arg Ile Gln Cys Arg Lys Thr Asp Thr Ser Leu Trp Gln Cys
545                 550                 555                 560

Pro Ser Asp Pro Trp Asn Tyr Asn Ser Cys Ser Pro Lys Glu Glu Ala
            565                 570                 575

Tyr Ile Trp Cys Ala Asp Ser Arg Gln Ile Arg Leu Val Asp Gly Gly
            580                 585                 590

Gly Arg Cys Ser Gly Arg Val Glu Ile Leu Asp Gln Gly Ser Trp Gly
            595                 600                 605

Thr Ile Cys Asp Asp Arg Trp Asp Leu Asp Asp Ala Arg Val Val Cys
    610                 615                 620

Lys Gln Leu Gly Cys Gly Glu Ala Leu Asp Ala Thr Val Ser Ser Phe
625                 630                 635                 640

Phe Gly Thr Gly Ser Gly Pro Ile Trp Leu Asp Glu Val Asn Cys Arg
            645                 650                 655

Gly Glu Glu Ser Gln Val Trp Arg Cys Pro Ser Trp Gly Trp Arg Gln
            660                 665                 670

His Asn Cys Asn His Gln Glu Asp Ala Gly Val Ile Cys Ser Gly Phe
            675                 680                 685

Val Arg Leu Ala Gly Gly Asp Gly Pro Cys Ser Gly Arg Val Glu Val
    690                 695                 700

His Ser Gly Glu Ala Trp Thr Pro Val Ser Asp Gly Asn Phe Thr Leu
705                 710                 715                 720

Pro Thr Ala Gln Val Ile Cys Ala Glu Leu Gly Cys Gly Lys Ala Val
            725                 730                 735
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347

```
Ser Val Leu Gly His Met Pro Phe Arg Glu Ser Asp Gly Gln Val Trp
            740                 745             750

Ala Glu Glu Phe Arg Cys Asp Gly Gly Glu Pro Glu Leu Trp Ser Cys
        755                 760             765

Pro Arg Val Pro Cys Pro Gly Gly Thr Cys Leu His Ser Gly Ala Ala
    770                 775             780

Gln Val Val Cys Ser Val Tyr Thr Glu Val Gln Leu Met Lys Asn Gly
785                 790             795                 800

Thr Ser Gln Cys Glu Gly Gln Val Glu Met Lys Ile Ser Gly Arg Trp
            805                 810             815

Arg Ala Leu Cys Ala Ser His Trp Ser Leu Ala Asn Ala Asn Val Val
            820                 825             830

Cys Arg Gln Leu Gly Cys Gly Val Ala Ile Ser Thr Pro Arg Gly Pro
        835                 840             845

His Leu Val Glu Gly Gly Asp Gln Ile Ser Thr Ala Gln Phe His Cys
    850                 855             860

Ser Gly Ala Glu Ser Phe Leu Trp Ser Cys Pro Val Thr Ala Leu Gly
865             870             875                 880

Gly Pro Asp Cys Ser His Gly Asn Thr Ala Ser Val Ile Cys Ser Gly
            885                 890             895

Asn His Thr Gln Val Leu Pro Gln Cys Asn Asp Phe Leu Ser Gln Pro
            900                 905             910

Ala Gly Ser Ala Ala Ser Glu Glu Ser Ser Pro Tyr Cys Ser Asp Ser
        915                 920             925

Arg Gln Leu Arg Leu Val Asp Gly Gly Gly Pro Cys Gly Gly Arg Val
    930                 935             940

Glu Ile Leu Asp Gln Gly Ser Trp Gly Thr Ile Cys Asp Asp Asp Trp
945                 950             955                 960

Asp Leu Asp Asp Ala Arg Val Val Cys Arg Gln Leu Gly Cys Gly Glu
            965                 970             975

Ala Leu Asn Ala Thr Gly Ser Ala His Phe Gly Ala Gly Ser Gly Pro
        980                 985             990
```

348

```
Ile Trp Leu Asp Asp Leu Asn Cys Thr Gly Lys Glu Ser His Val Trp
    995               1000              1005

Arg Cys Pro Ser Arg Gly Trp Gly Arg His Asp Cys Arg His Lys Glu
   1010              1015              1020

Asp Ala Gly Val Ile Cys Ser Glu Phe Leu Ala Leu Arg Met Val Ser
1025              1030              1035              1040

Glu Asp Gln Gln Cys Ala Gly Trp Leu Glu Val Phe Tyr Asn Gly Thr
              1045              1050              1055

Trp Gly Ser Val Cys Arg Ser Pro Met Glu Asp Ile Thr Val Ser Val
          1060              1065              1070

Ile Cys Arg Gln Leu Gly Cys Gly Asp Ser Gly Ser Leu Asn Thr Ser
       1075              1080              1085

Val Gly Leu Arg Glu Gly Ser Arg Pro Arg Trp Val Asp Leu Ile Gln
   1090              1095              1100

Cys Arg Lys Met Asp Thr Ser Leu Trp Gln Cys Pro Ser Gly Pro Trp
1105              1110              1115              1120

Lys Tyr Ser Ser Cys Ser Pro Lys Glu Glu Ala Tyr Ile Ser Cys Glu
              1125              1130              1135

Gly Arg Arg Pro Lys Ser Cys Pro Thr Ala Ala Ala Cys Thr Asp Arg
          1140              1145              1150

Glu Lys Leu Arg Leu Arg Gly Gly Asp Ser Glu Cys Ser Gly Arg Val
          1155              1160              1165

Glu Val Trp His Asn Gly Ser Trp Gly Thr Val Cys Asp Asp Ser Trp
   1170              1175              1180

Ser Leu Ala Glu Ala Glu Val Val Cys Gln Gln Leu Gly Cys Gly Gln
1185              1190              1195              1200

Ala Leu Glu Ala Val Arg Ser Ala Ala Phe Gly Pro Gly Asn Gly Ser
              1205              1210              1215

Ile Trp Leu Asp Glu Val Gln Cys Gly Gly Arg Glu Ser Ser Leu Trp
          1220              1225              1230

Asp Cys Val Ala Glu Pro Trp Gly Gln Ser Asp Cys Lys His Glu Glu
   1235              1240              1245
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349

Asp Ala Gly Val Arg Cys Ser Gly Val Arg Thr Thr Leu Pro Thr Thr
    1250   1255   1260

Thr Ala Gly Thr Arg Thr Thr Ser Asn Ser Leu Pro Gly Ile Phe Ser
1265   1270   1275   1280

Leu Pro Gly Val Leu Cys Leu Ile Leu Gly Ser Leu Leu Phe Leu Val
              1285   1290   1295

Leu Val Ile Leu Val Thr Gln Leu Leu Arg Trp Arg Ala Glu Arg Arg
          1300   1305   1310

Ala Leu Ser Ser Tyr Glu Asp Ala Leu Ala Glu Ala Val Tyr Glu Glu
          1315   1320   1325

Leu Asp Tyr Leu Leu Thr Gln Lys Glu Gly Leu Gly Ser Pro Asp Gln
    1330   1335   1340

Met Thr Asp Val Pro Asp Glu Asn Tyr Asp Asp Ala Glu Glu Val Pro
1345   1350   1355   1360

Val Pro Gly Thr Pro Ser Pro Ser Gln Gly Asn Glu Glu Glu Val Pro
              1365   1370   1375

Pro Glu Lys Glu Asp Gly Val Arg Ser Ser Gln Thr Gly Ser Phe Leu
          1380   1385   1390

Asn Phe Ser Arg Glu Ala Ala Asn Pro Gly Glu Gly Glu Glu Ser Phe
          1395   1400   1405

Trp Leu Leu Gln Gly Lys Lys Gly Asp Ala Gly Tyr Asp Asp Val Glu
    1410   1415   1420

Leu Ser Ala Leu Gly Thr Ser Pro Val Thr Phe Ser
1425   1430   1435

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<212> DNA
<213> Bovine

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350

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351

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<210> 450
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
     Consensus Sequence

<220>
<223> Residue 1 is L or I or V

<220>
<223> Residue 2 is any amino acid residue

<220>
<223> Residue 3 is L or I or V

<220>
<223> One or both of residues 4 and 5 can be present;
     when present, each of residues 4 and 5 is any
     amino acid residue

<220>
<223> Residue 7 is any amino acid residue

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<220>
<223> Residue 10 is N or H


<220>
<223> Residue 11 is any amino acid residue


<400> 450
Xaa Xaa Xaa Xaa Xaa Asp Xaa Asn Asp Xaa Xaa Pro
  1               5                   10



<210> 451
<211> 16
<212> PRT
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence


<220>
<223> Residue 1 is L, I, A, or T


<220>
<223> Each of residues is any amino acid residue


<220>
<223> One or both of residues 6 and 7 can be present;
      when present, each of residues 6 and 7 is any
      amino acid residue


<220>
<223> Residue 8 is P or E


<220>
<223> Each of residues 9 and 10 is any amino acid
      residue


<220>
<223> Residue 11 is L, I, V, M, F, or Y


<220>
<223> Residue 12 is D, E, N, Q, or S


<220>
<223> Residue 13 is S, T, or A


<220>
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<220>
<223> Residue 14 is A or V

<220>
<223> Residue 15 is L, I, V, M, F, or Y

<400> 451
Xaa Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1   5   10   15

<210> 452
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Residue 1 is G, S, T, A, L, I, V, or N

<220>
<223> Each of residues 2 and 3 is any amino acid residue

<220>
<223> Residue 6 is L, I, V, M, F, Y, or W

<220>
<223> Residue 7 is D, E, G, H, R, K, or P

<220>
<223> Residue 9 is any amino acid residue

<220>
<223> Residue 10 is L, I, V, M, F, Y, W, G, S, P, or Q

<400> 452
Xaa Xaa Xaa His Glu Xaa Xaa His Xaa Xaa
 1   5   10

<210> 453
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Residue 4 is G or N

<220>
<223> Residue 5 is any amino acid residue

<220>
<223> Residue 7 is D or R

<220>
<223> Residue 8 is L, I, V, S, A, P, K, or Q

<400> 453
Pro Arg Cys Xaa Xaa Pro Xaa Xaa
  1   5

<210> 454
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Each of residues 1-12, 14-16, 18, 27, and 29-37 is
      any amino acid residue

<220>
<223> Residue 26 is D, E, or N

<220>
<223> Residue 28 is L, I, V, M, F, or Y

<220>
<223> Residue 38 is F, Y, or W

<400> 454
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Xaa Xaa Xaa
  1   5   10   15

Glu Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
          20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa
          35

<210> 455
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Residue 1 is F or Y

<220>
<223> Residue 6 is D, N, or R

<400> 455
Xaa Cys Arg Asn Pro Xaa
  1   5

<210> 456
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Each of residues 2-6, 8, 9, 11-16, 22-24, 26-33,
      and 35-37 is any amino acid residue

<220>
<223> Residue 25 is F, Y, or W

<400> 456
Gly Xaa Xaa Xaa Xaa Xaa Gly Xaa Xaa Glu Xaa Xaa Xaa Xaa Xaa Xaa
  1   5   10   15

Trp Gly Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
              20   25   30

356

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Xaa Cys Xaa Xaa Xaa Gly
        35


<210> 457
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Each of residues 1-3, 5, 8-11, and 15-22 is any
      amino acid residue

<220>
<223> Residue 6 can be absent; when present, it is any
      amino acid residue

<220>
<223> Residue 13 can be absent; when present, it is any
      amino acid residue

<220>
<223> Residue 7 is E or Q

<220>
<223> Residue 12 is L, I, V, or M

<220>
<223> Residue 14 is E, Q, or K

<400> 457
Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1               5                   10                      15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro
            20                  25


<210> 458
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
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<223> Description of Artificial Sequence:Leucine Zipper
     Region of TANGO 366

<400> 458
Leu Asp Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu
 1   5   10   15

Leu His Leu Pro Ala Leu
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<210> 459
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Leucine Zipper
     Region of INTERCEPT 217

<400> 459
Leu Ser Cys Thr Gly Leu Gly Leu Gln Asp Val Pro Ala Glu Leu Pro
 1   5   10   15

Ala Ala Thr Ala Asp Leu
            20

<210> 460
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Leucine Zipper
     Region of TANGO 331

<400> 460
Leu Glu Ala Gln Glu Glu His Leu Glu Ala Trp Trp Leu Gln Leu Lys
 1   5   10   15

Ser Glu Tyr Pro Asp Leu
            20